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Establishment and development of a three campus (5,000 students per campus) community college system is detailed. Available sites and facilities were evaluated, and abandonment, conversion or replacement recommendations were made. Recommendations include enrollment projections, suggested programs and services needed, construction schedules and cost estimates. Curriculum programs to be housed in each of the three locations are transfer, general, developmental, adult general, and occupational education. Facility needs to 1975 were projected with a fourth site suggested if educational demand accelerates at that time. Included are numerous charts and graphs of geographic and demographic statistics. Appendices include occupational information for the Seattle area and projected space needs by function for each proposed campus. (RLP)

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LONG RANGE PLANNING FOR SEATTLE COMMUNITY COLLEGE

EF 002500

ACE THE ASSOCIATED CONSULTANTS IN EDUCATION

LONG-RANGE PLANNING FOR SEATTLE COMMUNITY COLLEGE: A PLAN FOR DEVELOPMENT

Prepared for the Board of Directors of the Seattle School District

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I

BACKGROUND OF THE STUDY

The Setting

As the school district of Seattle focuses its attention on the planning of a system of community colleges to serve its people, community colleges throughout the Nation are growing rapidly and expanding their services on behalf of the communities they serve. A vast reservoir of experience has accumulated and excellent practices have evolved that should provide excellent guidelines for planning Seattle's Community College System. This is not to say that what San Francisco, Los Angeles, Miami, Chicago, or Kansas City are doing should be repeated in Seattle yet their experiences and patterns of development may perhaps suggest mistakes to avoid and good practices to follow as future plans are laid. The purpose of this section is to review national and state trends and to focus on the current situation as Seattle plans for its future.

The National Setting

In the United States in 1900, there were eight junior colleges with a total enrollment of 100 students. All were privately supported and controlled. Today, there are almost 800 junior colleges of which approximately 60 per cent are public community colleges. These community colleges enroll 88 per cent of the total number of junior college students or somewhat over one million. While all junior colleges enroll only about one-fifth as many degree-credit students as four-year colleges do, the ratio is reversed for occupational and general education students. That is to say that junior colleges enroll over five times as many students in this category as do the four-year colleges and universities.

The growth in the number of new community colleges has been phenomenal. President Kennedy in one of his last speeches predicted that there would certainly be 25 to 30 new junior colleges a year for the next ten years. Many said that this estimate was much too high. However, in 1965-66 there were 50 new junior colleges in operation, none of which had been in operation the preceding fall.

The development of these institutions, their organizational designs, support patterns, and buildings vary greatly throughout the

Nation. However, they have a common purpose—to provide more and broader educational opportunities so youth and adults can more nearly realize their potential.

The Setting in Washington State

Remarkable progress has been made in the forty years during which public community colleges have been in operation in Washington State. A brief review is given here of some of the significant developments. There appears to have been a new phase each fifteen-year period.

1925-1940

Eight junior colleges were established during this period: Centralia, 1925, Mt. Vernon, 1926, Yakima, 1928, Aberdeen, 1930, Vancouver, 1933, Spokane, 1933, Longview, 1934, and Wenatchee, 1939. These colleges were first designed "to alleviate the over-crowded conditions at the state universities and to provide near-to-home the opportunity for boys and girls to obtain the first two years of college education."[1] In this fifteen-year period, there was no state support for these institutions and very little local money available. Despite a serious economic depression, the colleges persisted, due primarily to the consideration given by the local school superintendent, to the willingness of high school faculty to work long hours with little remuneration and to the cooperation of parents, business men, and farmers in the area served.

1941-1956

During this second fifteen-year period, three junior colleges were started: Everett 1941, Bremerton, 1946, and Pasco, 1955. In 1941, the first Washington state law dealing with junior colleges was passed. Quoting from *Public Education in Washington* this law "defined junior colleges as institutions offering courses of study above high school grade, organized into academic and vocational curricula of not more than two years in length."[2]

Responsibility for establishing standards and rules and regulations for their location, organization, curriculum, and operation was placed in the hands of the State Board of Education and the State Board of Vocational Education. Responsibility for authorizing the establishment of a public junior college was placed in the hands of the Governor following the State Board of Education's certification that the area concerned had met the standards prescribed.

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[1] Quoted from *Washington Education Journal*, Washington Education Association, January, 1956, *Washington Community Colleges.*

[2] *Public Education in Washington*, A survey of Public Education in the State of Washington, George D. Strayer, Director, 1946, p. 300.

The general government of each junior college was vested in a Board of Trustees appointed by the Governor with the approval of the Senate on a rotation plan. In the case of junior colleges acting jointly with the Board of Directors of a local school district, it was vested in the Board of Directors of the school district which became its Board of Trustees.

The legislation provided state support at the rate of seventy-five dollars per student per year for general education and one hundred dollars per student per year for vocational education, up to a maximum of ten thousand dollars. The number of junior colleges that might be organized was limited to twelve, and all counties were excluded in which there existed a recognized institution of higher learning capable of offering courses of study above high school grade.

The responsibility for providing buildings and equipment was made the obligation of the local residents of the area served by the junior college. Authorization to prescribe fees was granted Boards of Trustees subject to the approval of the State Board of Education.

The junior college in Spokane was closed as a result of this law. Despite this and the other severe limitations placed on the number and location of future colleges, considerable progress was made. For the first time in the state, the junior colleges had some measure of sescurity and acceptance. The 1945 law provided that any public junior college was allowed to merge with a local public school district under the control of the local school board and superintendent. All existing junior colleges chose to merge. State funds were available for adult education programs offered through the community colleges.

Between 1946 and 1956, new buildings on campuses separate from the high school were dedicated at Yakima, Vancouver, Centralia, Wenatchee, and Bremerton. By 1956 state funds were available to assist in capital construction for junior colleges. In fact, Washington State was one of the first, if not the first, to provide state funds for capital expenditures for junior colleges.[3]

The establishment of community colleges on separate campuses with their own faculty, their own buildings, and their own identity contributed greatly to the rapid growth in junior college enrollment and effective service to the state. During this period, the total enrollment grew from 3,000 to over 17,000 students. Of this number, 4500 were full-time students in the ten institutions. During this second fifteen-year period, there was a great broadening of the role of the community college. This can be seen from the following statement taken from the January, 1956 issue of the Washington Education Association Journal: "Today, the purpose of the community junior college is much broader: to assist each youth to discover and evaluate his capabilities and to provide training to meet his needs."

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[3] *State Formulas for the Support of Public Two-Year Colleges*, Morrison, Martorana, OE 57004, GPO, Washington, 1962.

1957-1972

During this third fifteen-year period, it is likely that the community junior college system of the state of Washington will reach its ultimate objective—to be within commuting distance of all of the high school graduates within the state. California, Florida, New York, and Michigan are already within reach of this goal.

Some of the significant developments in this period to date, are reviewed briefly below:

a. The concept of the comprehensive community college has entirely replaced the old idea of a junior college as being primarily a two-year liberal arts institution. It should be mentioned, however, that in a number of the junior colleges in the state sufficient attention has not been given to the vocational-technical curricula so essential to meet the needs of the people of the State. One of the obvious reasons for this is that the vocational-technical programs are much more expensive than the transfer ones.

b. Restrictions limiting the number and the location of junior colleges in Washington state were removed by law. As a result of these changes, community colleges were established at Port Angeles and Highline in 1961, Moses Lake in 1962, Spokane in 1963, Shoreline in 1964, and Green River and Tacoma in 1965. Additional districts have been approved for the operation of a community college. One of these newly approved districts is Seattle.

c. In Washington state, the legislature has passed several significant community college laws in recent years. From these, several trends are apparent. These include:

(1) The State Superintendent of Instruction was instructed by

the legislature to develop a plan for junior college districts by 1967. Apparently, the purpose of this is to avoid the situation where the district of residence may not be taxing itself to pay for students attending a nearby community college.

(2) The tendency to lower the percentage of state support for both current operations and capital expenditures and put more of the cost on the district.

(3) The trend toward giving community colleges more autonomy in their operations.

(4) The separation of funds received by and expended for the community colleges so that these are clearly identifiable in a district budget (since 1963).

(5) The tendency for the state legislature rather than the State Board of Education to determine how many students shall be accepted in community colleges in any year by setting the state appropriation. The State Superintendent of Instruction prepares the biennial estimate of needs, the legislature determines the amount appropriated for community colleges and then the superintendent allocates the funds to the colleges.

At the present time, a study approved by the state superintendent's office and the legislature is examining the function, the financing, and the administration of community colleges in the State of Washington. It is expected that the recommendations of this study will have a great influence on the future development of community colleges within the state.

The Seattle Setting

Until recent years, the Seattle School District gave little purposeful consideration to the establishment of a community college. Some of the factors contributing to this situation were: (1) for about 35 years, the law would not permit the establishment of a community college in a county which had a recognized institution of higher education (2) the University of Washington and Seattle University were two higher educational institutions that were nationally recognized; these institutions were capable of serving students who were aiming for a baccalaureate degree (3) Edison Vocational School was known as one of the finest of its type in the Nation. It provided excellent training opportunities for those students seeking work in the Seattle area. (4)

Seattle had an excellent adult education program with a broad scope of offerings (5) and finally it was possible for the students in the Seattle area to go to the community colleges in Everett, Bremerton, and Wenatchee.

In the fall of 1964, the Seattle School Board made formal application to the State Board of Education for approval to operate a community college. With the approval received, the Seattle School Board advertised for a three-man planning staff in June, 1965. A coordinator of planning, a facilities planner, and a curriculum planner were secured. Later, the staff expanded to six members including the coordinator, the facilities planner, the planner of transfer education, the planner of vocational-technical education, of student services and business.

To assist this planning staff, bids were called for and several professional consulting firms presented their proposals. The firm of Associated Consultants in Education was employed and planning began in December, 1965.

Seattle's Geographical Setting

Seattle is located on the eastern shore of Puget Sound and is the largest city in the state of Washington with a total population in 1965 of 566,000.[4] Spokane is the second largest city with 185,000 and Tacoma, the third largest, has 152,000. These three cities together comprise about fifty per cent of the population of Washington State residing in incorporated places. Seattle is approximately 100 miles south of the Canadian border and approximately 200 miles north of the Washington-Oregon border. Seattle, like Rome of old, is located on seven hills. It has an hour-glass shape due to being confined by Puget Sound, Lake Union, and Lake Washington. The center part of the city is less than three miles from west to east. A line running from north to south represents the long axis of approximately 16 miles.

The Purpose of the Report

The purpose of this report is to provide the Board of Directors of the Seattle School District, the Superintendent of Schools, the President of the College, the Planning Staff, and the faculty of the College, a comprehensive overall plan for the physical development of the community college system.

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[4] Washington State Census Board.

The Consultants have prepared this report with the following basic concepts in mind:

a. The long-range plan reported herein is based on sound educational principles, is consistent with the role and scope of community colleges in the state and in the Nation, and is specific in relating to factors and situations found in the Seattle area.

b. The plan is projected as a series of related sections dealing with various aspects of the facilities and functions of the college. Its central theme throughout is that all parts give emphasis to service for youth and adults of the community.

c. The plan develops both priorities and sequence so that any short-range plan can be related to it and not be developed in terms of emergency conditions.

d. Finally, the plan assumes that the necessary financial and time requirements can be met.

The written report will be in two parts—Part I is a long-range skeletal master facilties plan, and Part II will be the educational specifications for the initial phase of construction.

The report on the long-range skeletal master facilities plan as outlined in the contractual Agreement includes the following:

1. A review of the local projections of student enrollment potential with comments and recommendations.
2. A review of the programs of instruction proposed for the community college centers with recommendations for changes, if needed.
3. A review of the sites proposed for use as community college centers to determine their capacity to accommodate short and long-range objectives for development and projected student capacities. Recommendations will be made regarding possible changes should they be considered desirable.
4. An evaluation of existing facilities to determine their desirable short and long-range use.
5. Recommendations regarding the types of educational services and facilities to be provided at each campus; i.e., whether each center should provide comprehensive services and be a completely self-contained unit, or not.
6. A review and recommendations regarding the proposed schedule of construction at each center.

7. An estimate of capital outlay costs for each component of the total program of services to be provided by the community college.[5]

Some Guiding Principles

Purposes of Community Colleges

The main purpose of the community college is to provide opportunities to high school graduates, out-of-school youth and adults, to assess their capabilities, to identify their interests, and to plan and to complete a program of education which will fully utilize their interests, their motivation, and their potential. The community college should provide the climate in which each individual is stimulated to grow to the fullest—intellectually, physically, artistically, and spiritually. The community college also should give attention to stimulating interest in our cultural heritage, encouraging an understanding of other nations and their cultures, and helping students to be effective as citizens, neighbors and members of a family. The community college that accepts these purposes has a tremendous opportunity to break down the many barriers which have for so long kept many people from continuing their education.

Some Long-Range Planning Concepts

In planning a community college, the following concepts have proven effective.

a. A community college must be planned so that it offers a comprehensive program.

b. To develop the most efficient administrative structure possible, the president of the community college system in a unified district should be in a line relationship through the Superintendent of Schools to the District Board. Similarly, there should be a line relationship between the President of the college system and the chief administrative officers on each campus.

c. The community college is basically a part of higher education and should be recognized as such. Some of the characterstic features which relate community colleges to all higher educational institutions are:

   (1) The students are beyond compulsory attendance age.

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[5] Agreement between Seattle School District Number 1 and Associated Consultants in Education, Inc., January 8, 1966.

(2) The students are mostly post-adolescent in age, and are more self-motivated due to their understanding of the immediacy of their goals and the fact that perhaps for many of them, it is their last chance for full-time-post-secondary education.

d. The span of control of the president of the community college system should not exceed eight. Those reporting directly to the president should include only the chief administrative officer of each campus, should there be more than one, and the professional specialists on the president's staff.

e. An administrative organizational structure does not guarantee success, but it can contribute greatly to this end or, can impede progress.

f. The efficiency of the administrative structure depends largely on the people filling the positions. Competent, well-trained experienced administrators with broad backgrounds, with deep commitments to expanding educational opportunities, with cooperative attitudes, and with understanding of the community college philosophy are essential.

g. Clear designation of authority and acceptance of responsibility are followed undeviatingly throughout each level.

h. Each member of the administrative staff, each faculty and staff member should be involved in preparing a written statement defining his role in the institution. Similarly, each faculty and staff member is expected to be involved in the making of policies which relate to him.

i. The student is recognized as the main concern of the institution. The administration gives first priority to developing a climate for learning in which each student can achieve up to the level of his interest and potential and be encouraged to raise this potential.

j. If for efficiency or other reasons, it is deemed essential to use services provided by the central administration of the district, such services should be purchased. The guiding principle should be that the needed services should be provided at the level where they can be rendered most effectively to enhance the community college program.

k. The greatest possible autonomy should be permitted for the community college while at the same time providing for the articulation with other instructional levels of the school system.

Community colleges developed in accordance with these concepts can operate well in a unified school district.

II

PROJECTION OF STUDENT ENROLLMENT POTENTIAL FOR SEATTLE'S COMMUNITY COLLEGE

Introduction

The purpose of this chapter is to present data and relevant findings regarding the long-range enrollment potential for Seattle's Community College. A basic understanding of probable enrollment trends and projected enrollment potential is essential to long-range planning for the proposed college. Planning decisions regarding the number of campuses, their location and ultimate plant capacities inevitably must be based on the projected student enrollment potential.

This chapter considers as background the increase of community college enrollments in the Nation and the state of Washington, and examines the factors which are likely to affect the enrollment potential in Seattle. Enrollment projection procedures are explained, and the projected enrollment potential is presented.

Growth of Community Colleges

The growth of the community college in the United States has been one of the most phenomenal developments in American higher education in the last quarter of a century. In the ten year period between 1954 and 1964, enrollments in community colleges more than tripled while those in all higher education institutions doubled. In the year 1964, one student in four entering higher education enrolled in a community college.[1]

Nationwide projections indicate that in 1974, the number of high school students will have more than doubled, and the number of degree-seeking college students will have more than tripled the 1954 totals.[2]

Since 1950, the enrollment in Washington's community colleges has increased more rapidly than in any of its state higher education institutions. In the year 1950, community colleges in the state of Washington enrolled approximately 10,000 full and part-time students. By 1960, enrollments had increased to 15,000. In the fall of 1965, the number of enrollees had increased to approximately 31,000.[3]

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[1] HEW. *Opening (Fall) Enrollment in Higher Education,* U. S. Government Printing Office, Washington, 1964, p. 5.

[2] HEW. "Projection of Educational Statistics to 1974-75, Circular 790", U. S. Government Printing Office, Washington, D. C.

It is perhaps likely that the community colleges in the state of Washington will enroll an increasingly larger percentage of students seeking opportunities in post high school education. This is evidenced by current trends in the state. In 1955, Washington's community colleges enrolled 12.8 per cent of the degree-credit students enrolled in higher education in the State. By 1960, 16.2 per cent and by 1964, 23.8 per cent of Washington students in higher education were enrolled in community colleges.[4] Of the total number of students (degree-credit and vocational-technical) enrolled in Washington's higher education institutions in 1964, approximately 30 per cent were enrolled in community colleges.[5]

A plan proposed by the Council of Presidents in 1964 recommended that the state colleges and universities of the state of Washington "retain in the future a smaller percentage of the total number of freshmen and sophomores enrolled in the state's academic degree courses, and a larger percentage of freshmen and sophomores would be absorbed by an expansion of community college capacity."[6] With the implementation of such a plan, it is reasonably safe to assume that the rate of increase in community college enrollments will be accelerated.

Seattle Enrollment Potential

General

The determination of the enrollment potential of Seattle's proposed community college must be considered in light of the developments discussed in the preceding paragraphs. Additionally, factors, some of which are peculiarly local, must be assessed as to their implications for the projected enrollment potential. Some of the pertinent factors are:

1. General population trends of Seattle.

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[3] Washington State Department of Education. "Fall Quarter, 1965-66 Enrollment Summary for Community Colleges," Bulletin Number 4-66, (January 10, 1966), p. 2.

[4] Calvin F. Schmid, *et al. Enrollment Forecasts, State of Washington, 1965-1985.* Washington State Census Board, Olympia, 1966, p. 52.

[5] HEW. *Loc cit.* p. 79.

[6] The Council of Presidents. *A Plan for Public Higher Education in Washington.* The Council, (November, 1964), p. 11.

2. Trends in enrollments in existing curricula which are to be assimilated in the community college program.
3. The accessibility of facilities proposed to serve the enrollment potential.
4. Admission requirements of four-year colleges and universities in the state.
5. The extent of financial support provided for current maintenance and operation of the local community college.
6. The increasing demand on the part of more people for education beyond the high school.
7. The degree of emphasis on occupational curriculums.
8. Trends in the number of graduates from Seattle's high schools.

Such factors as local employment conditions, the impact of national selective service policies and the general competitiveness of student fee schedules could also influence the enrollment potential. However, these factors are less likely to have a permanent effect on the long-range enrollment potential than the factors mentioned in the preceding paragraph.

The discussion which follows presents an assessment of the foregoing factors.

Total Population Trends in Seattle

This factor is discussed more fully in another section of this report. Suffice it to say here that Seattle is expected to grow slowly during the next decade. Its population in 1965 was estimated to be 566,000 people. The City Planning Commission projects a population of 577,000 people in 1975. Obviously, community college enrollments in Seattle will be influenced to a very limited extent by general population growth.

Trends in Enrollments in Existing Curricula

Historical data on day enrollments in occupational programs are shown in Table 1. Projections of potential enrollments in the broad occupational curriculums are also shown. A general decline in day general adult education enrollment could perhaps take place unless some special effort is made to reverse the apparent trend. Other day programs probably will increase as shown by the projections.

TABLE 1

ACTUAL AND PROJECTED DAY FTE ENROLLMENTS IN OCCUPATIONAL AND ADULT GENERAL EDUCATION PROGRAMS

Seattle Community College
1960-1975

	YEAR							
Curriculum	1960	1961	1962	1963	1964	1965	1970	1975
Trades	1094.5	1020.4	1064.4	1097.0	1116.8	1157.3	1235.7	1306.
Gen. Adult Ed.	485.2	450.1	369.4	435.8	355.8	398.8	400.3	400.
Business Ed.	373.2	383.1	378.1	437.6	488.2	447.0	476.6	504.
Distributive Ed.	3.5	7.6	23.6	34.1	54.9	64.6	120.0	175.
Homemaking	43.5	25.9	42.2	41.5	38.0	36.2	30.0	24.
Literacy				8.4	172.5	191.4	257.2	323.
Other				30.7	100.2	119.6	202.8	287.
Total	1999.9	1887.1	1877.7	2085.1	2326.4	2414.9	2722.6	3019.
Adjusted Total[A]	2000.0	1887.0	1878.0	2085.0	2326.0	2619.0	3358.0	4050.

[A] The adjusted total is the sum of the projections made for the day programs for adult and vocational education plus the vocational enrollment potential derived from the high school graduate projection. The high school graduate projection includes an estimated 8.3 per cent classified as vocational students.

Accessibility of Proposed Facilities to Serve the Enrollment Potential

Data from Chicago City Junior College clearly illustrates the influence of this factor on student enrollments. In Chicago almost 70 per cent of the students enrolled in the eight branches of the college live within five miles of their branch of enrollment.[7] One half the students in Washington's community colleges travel less than five miles to school.[8]

The plan proposed for the location of community college campuses in Seattle provides for a minimum of three campuses which are to be distributed geographically at a distance of approximately five miles apart. No student living in Seattle should be farther than five miles away from a college campus when the proposed plan is implemented. Maximum enrollment potential of Seattle Community College should be realized under this plan.

Admission Requirements of Four-Year Colleges and Universities

The Council of Presidents has recommended that the minimum high school record allowable for direct admission from high school to state universities and colleges should be 2.5 grade points and graduation in the top half of the high school class.[9] Obviously, if this trend toward greater selectivity for the admission of students to colleges and universities in Washington fully develops, there will be an increase in the enrollment potential of the community college in Seattle. The trend toward greater selectivity of admissions is widespread throughout the Nation and is influencing enrollments in community colleges in many states. Florida and California are both examples of states where increased selectivity for college admissions is having such an impact.

The Extent of Financial Support Provided for Current Maintenance and Operation of the Local Community College

Apparently, there are restrictions in the allocation of funds for operating community colleges in Washington. While the state contributes substantially to the financing of community college programs, this support has not been adequate to fulfill the growing need for community college services. In the past, the state legislature has apportioned fixed sums of money to the State Board of Education for the support of all community colleges. The State Board, in turn, has allocated the apportioned funds among the several community colleges. Because of the limited funds available, the State Board has controlled enrollments through the distribution of state construction matching and operating funds without which new institutions could not be established and existing ones could not operate. It is important to note at this point that the state program is one of assistance rather than one of full support. Therefore, Seattle's community college enrollment will perhaps be restricted due to financial limitations for a number of years to come unless either the Legislature is willing to increase its financial assistance to the Seattle School District or the Seattle School District is willing to provide for the more complete support of the community college program than has been the usual practice elsewhere in the state.

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[7] Chicago Public Schools. *Study Report Number 10, 1964 Series*, August 1, 1964, pp. 10-11.

[8] State Office of Public Instruction. *Community College Student Characteristics*, The Office, Olympia (April, 1965), p. 12.

[9] The Council of Presidents. *Loc Cit.*, p. 12.

The Increasing Demand on the Part of More People for Education Beyond the High School

According to the 1960 Census, more than half of America's young men between the ages of 20 and 25 have completed a higher level of education than their fathers. "Among men whose fathers are not high school graduates, 57 per cent are at least high school graduates and some have attended or completed college. Among those whose fathers are college graduates, 96 per cent have finished at least high school and 88 per cent have attended college. Thus there is a marked tendency for an educated America to want a more educated America."[10] This strongly suggests that increased college enrollments will result from a larger number of youth who will want a college education.

Similar data are not available for Seattle but it seems safe to assume that similar conditions do prevail.

The Extent of Emphasis on Occupational Curriculums

Marked technological changes taking place in our society demand a higher level of education and training for the work force of the Nation. Occupational patterns are changing so rapidly in response to new technological developments that one can never consider his education finished. According to Harris, most young workers now entering the labor force will have to effect a complete change in their work skills and knowledge at least three times during their working careers.[11]

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[10] Winfred L. Godwin, "Goals for Higher Education in the South with Special Reference to Community Colleges," *Community Colleges in the South-Progress & Prospects*, Southern States Work Conference, 1962.

The community college of Seattle is committed to fulfill the needs for the continuous education of its people. The comprehensive program planned for Seattle Community College with its heavy emphasis on occupational curriculums will increase the potential student enrollment. This is substantiated by the fact that student enrollments in occupational fields in many community colleges are equal to or greater than those in the academic programs. Enrollments in Orange Coast Junior College and Chicago City College are about 60 per cent transfer and 40 per cent occupational. A number of community colleges in New York State enroll 10 occupational students to one transfer. The national average is about four transfer students to one in occupational programs.

Graduates of Seattle's High Schools

Probably, the greatest impact on the future enrollment potential will be from the increasing number of high school graduates from Seattle's high schools. Table 2 shows the number of high school graduates from both public and private schools in Seattle. There was a steady increase in the total number of graduates from 1958 through 1965. The total from both groups increased 53.7 per cent from 1958 to 1964. The number of high school graduates from private and parochial schools could increase by approximately fifty per cent during the ten-year period. After 1970, the number of public high school graduates is expected to decline unless conditions change. Enrollment projections, shown in Table 2, indicate that the total number of graduates will continue to increase through 1970 after which time it is expected that the number will decrease annually through at least 1975.

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[11] Norman C. Harris, *Technical Education in the Junior College / Programs for New Jobs,* American Association of Junior Colleges, Washington, 1964, p. 33.

TABLE 2
HIGH SCHOOL GRADUATES
PUBLIC AND PRIVATE HIGH SCHOOLS
Seattle School District

Year	Public[1]	Private[2]	Total	Index
1958	4381	700	5081	100.0
1959	4565	756	5321	104.7
1960	5279	821	6100	120.1
1961	5999	860	6859	135.0
1962	6012	865	6877	135.3
1963	6050	915	6965	137.1
1964	6854	954	7808	153.7
1965	7517	1029^{P}	8546^{P}	168.2
1966	7329^{P}	1076^{P}	8405^{P}	165.4
1967	7168^{P}	1123^{P}	8291^{P}	163.2
1968	6970^{P}	1170^{P}	8140^{P}	160.2
1969	7195^{P}	1217^{P}	8412^{P}	165.6
1970	7407^{P}	1264^{P}	8671^{P}	170.7
1971	7328^{P}	1311^{P}	8639^{P}	170.0
1972	7232^{P}	1358^{P}	8590^{P}	169.1
1973	7031^{P}	1405^{P}	8436^{P}	166.0
1974	7098^{P}	1452^{P}	8550^{P}	168.3
1975	6724^{P}	1499^{P}	8223^{P}	161.8

^{P}—Projected

[1] See projection of public school enrollment, Seattle School District.

[2] Average increase of 47 graduates per year from 1958 to 1965—used same increase for projection of private high school graduates.

Table 3 shows the unadjusted statistical projection of Seattle's Community College enrollment potential, as well as the adjusted potential. The specific assumptions underlying these projections are discussed in the following paragraphs.

Procedures Used in Making Enrollment Projections

The steps listed below were followed in making the enrollment projections included in this report:

1. The Cohort Survival Technique was used to project enrollments in grade 12. The projections include enrollments for the year 1975.
2. An index derived from the ratio of high school graduates to 12th grade enrollments was used to project public high school gradu-

ates through 1975. Graduates from private high schools were projected using the straight line technique of curve extension.

3. The FTE[12] enrollment potential in the vocational and adult education curriculums was projected as follows:

   (a) Cumulative annual class enrollments in each curriculum for the last five years were plotted on a graph. The curve resulting from the plotting of this experience data was then extended by extrapolation techniques. The use of this technique resulted in a projection which is representative of past experience and assumes that the past is the best indicator of the future.

TABLE 3
ACTUAL AND PROJECTED FTE DAY ENROLLMENT POTENTIAL[1]
Seattle Community College
1965-1975

	Year						
	Unadjusted				Adjusted		
Division	1965	1970	1975	%	1970	1975	%
General Adult & Non-Transfer	710[A]	860[P]	1,010	6.5	860[P]	1,010[P]	6.5
Occupational[2]	1,909[A]	2,498[P]	3,040	19.7	4,148[P]	6,176[P]	40.0
Transfer	2,251[P]	7,011[P]	11,390	73.8	5,361[P]	8,254[P]	53.5
Total	4,870	10,369	15,440	100.0	10,369	15,440	100.0

[1] Day students only. Evening students are not included.

[2] Includes vocational, technical, business, distributive, and other programs classified generally as occupational.

[A]—Actual

[P]—Projected

   (b) A second technique was used in which the ratio of enrollments to the total adult population in Seattle for 1960 was applied to the projected adult population for 1970 and 1975. The use of this technique assumes that there is a constant relationship between the total adult population and the number of adults who need vocational and adult education.

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[12] FTE enrollment means full-time-equivalent student enrollment.

(c) A third projection was made by using a mathematical averaging technique by which the average of the two previous projections was represented by a statistical curve. The use of this technique assumes that the adult population increase and past enrollment experience data would have equal weight on the future enrollment potential. The result is a projection which provides for a moderate increase in the potential adult and vocational enrollment for the next ten years. This medium projection has been used for planning purposes. The data are shown in Figures 1-7.

4. The following technique was used to project the enrollment potential for the transfer and associate degree programs:

   (a) The number of graduates from Seattle's high schools who either were or are now attending community colleges elsewhere was used as a base from which to project potential enrollments. The number from Seattle who are currently enrolled in other community colleges was obtained from the State Department of Education. Data were available for fall enrollments covering the period 1963 through 1965. The assumptions involved in this technique are as follows:

      (1) The best indicator of future enrollment potential of the college transfer program is the number of persons graduating from the public and private high schools of Seattle.

      (2) The most logical base from which to project the future enrollment potential is the number who are now enrolled in a community college from Seattle's high high schools.

      (3) The annual rate of increase in the number of community college enrollees from Seattle's high school graduating classes during the past three years is the best available index of probable future increases in the enrollment potential of the college.

      (4) The enrollment potential of Seattle's Community College can be expected to increase in accordance with the experience of community colleges in other comparable large industrial cities such as Chicago and Los Angeles, and that the ultimate number of enrollees will approximate the rate experienced in these cities.

FIGURE 1

ACTUAL AND PROJECTED DAY TRADE CLASS ENROLLMENTS–SEATTLE COMMUNITY COLLEGE, 1960-75

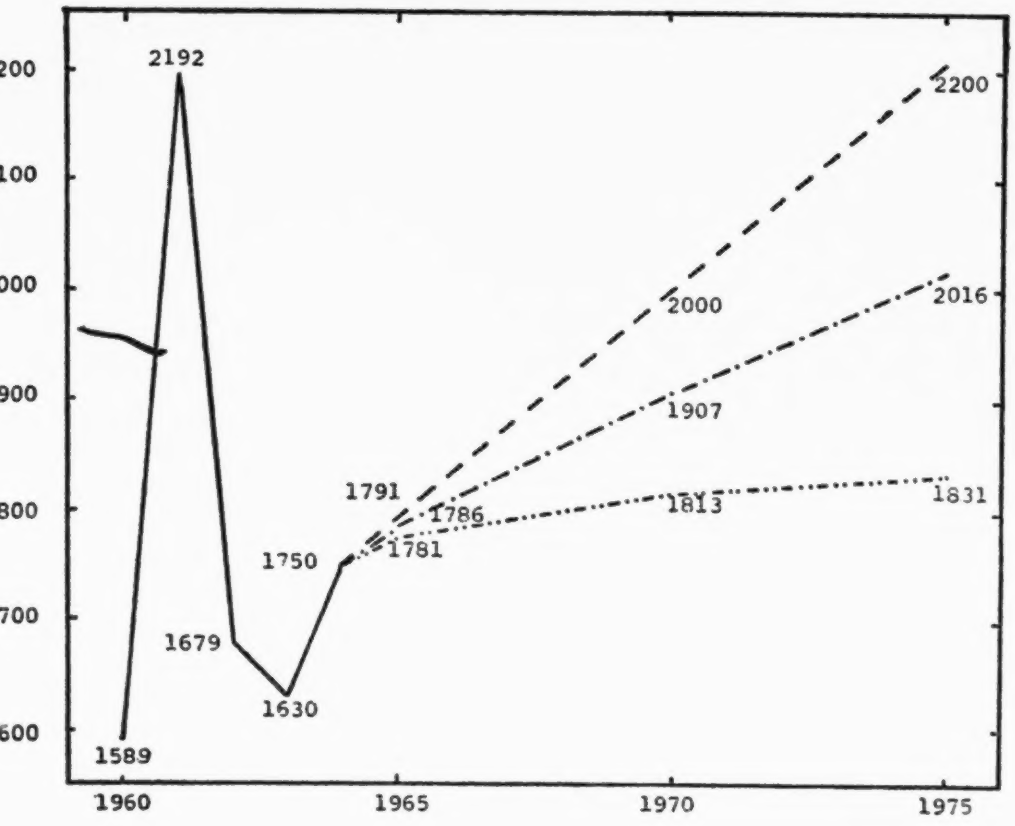


FIGURE 2

ACTUAL AND PROJECTED POTENTIAL ENROLLMENTS IN DAY BUSINESS EDUCATION–SEATTLE COMMUNITY COLLEGE, 1960-1975

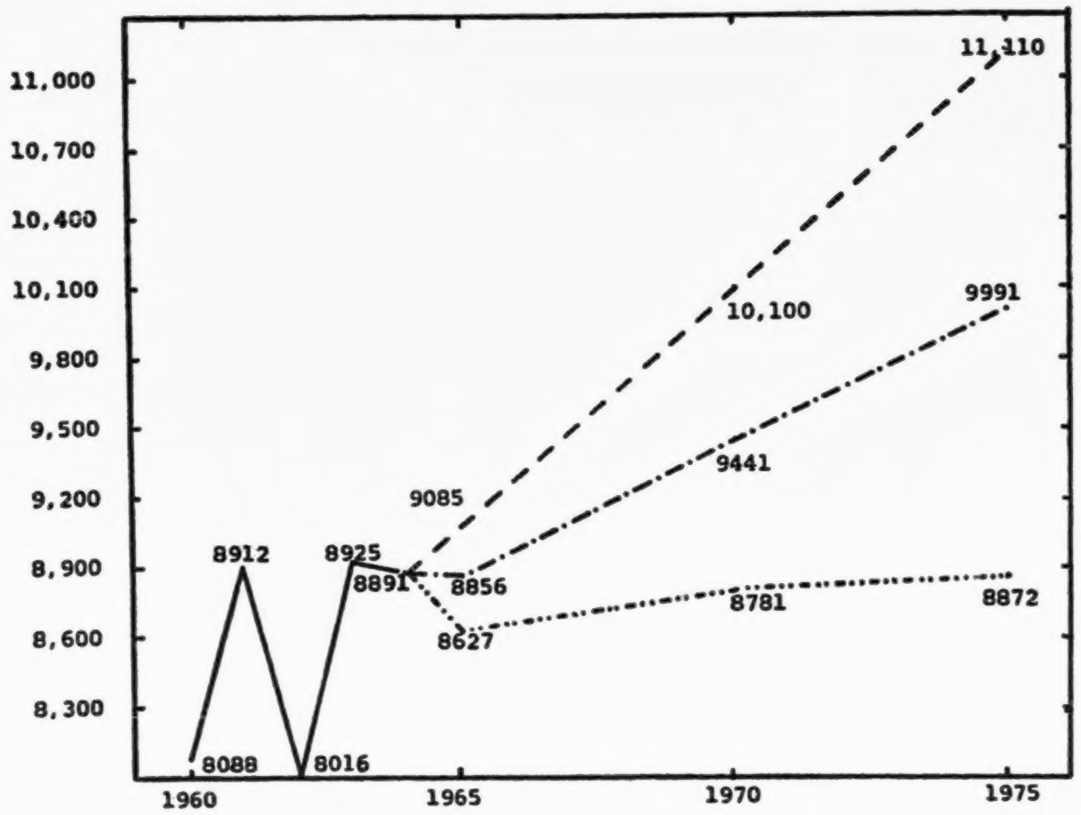


FIGURE 3

ACTUAL AND PROJECTED ENROLLMENT POTENTIAL IN DAY DISTRIBUTIVE EDUCATION–SEATTLE COMMUNITY COLLEGE, 1960-1975

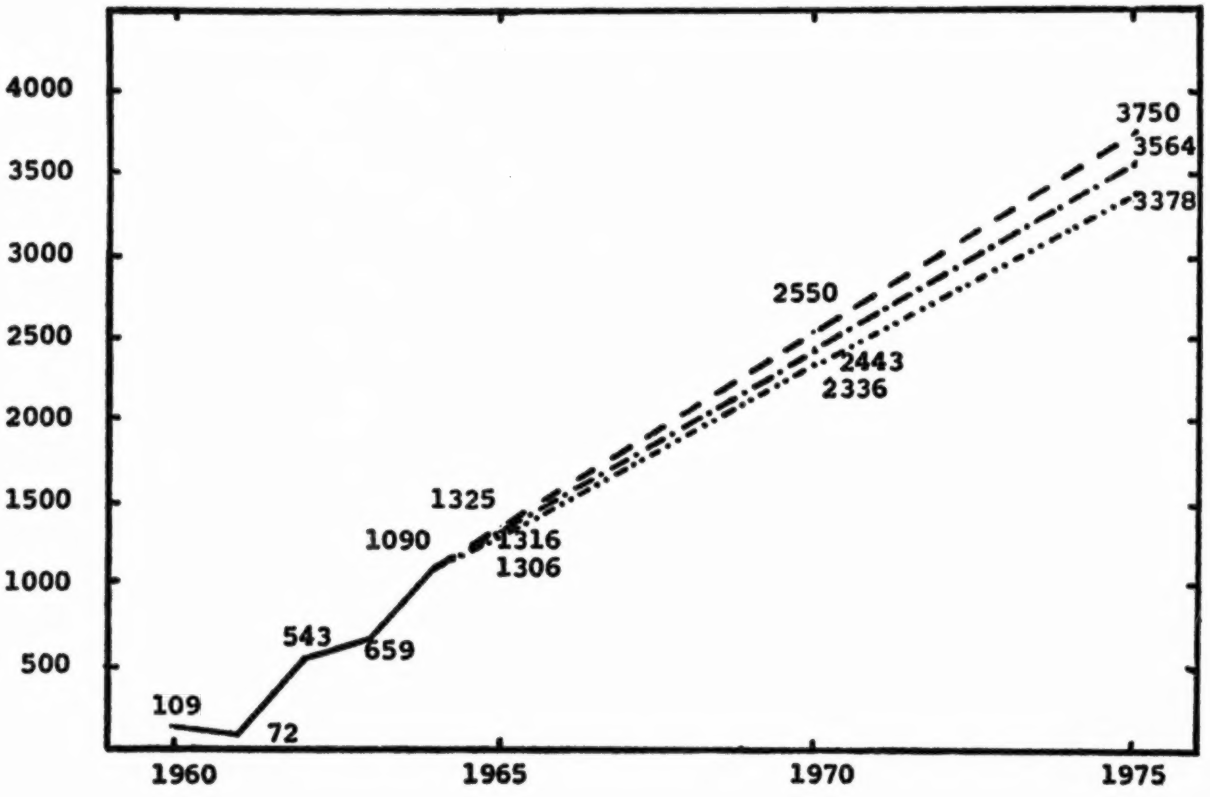


FIGURE 4

ACTUAL AND PROJECTED ENROLLMENT POTENTIAL IN DAY HOMEMAKING–SEATTLE COMMUNITY COLLEGE, 1960-75

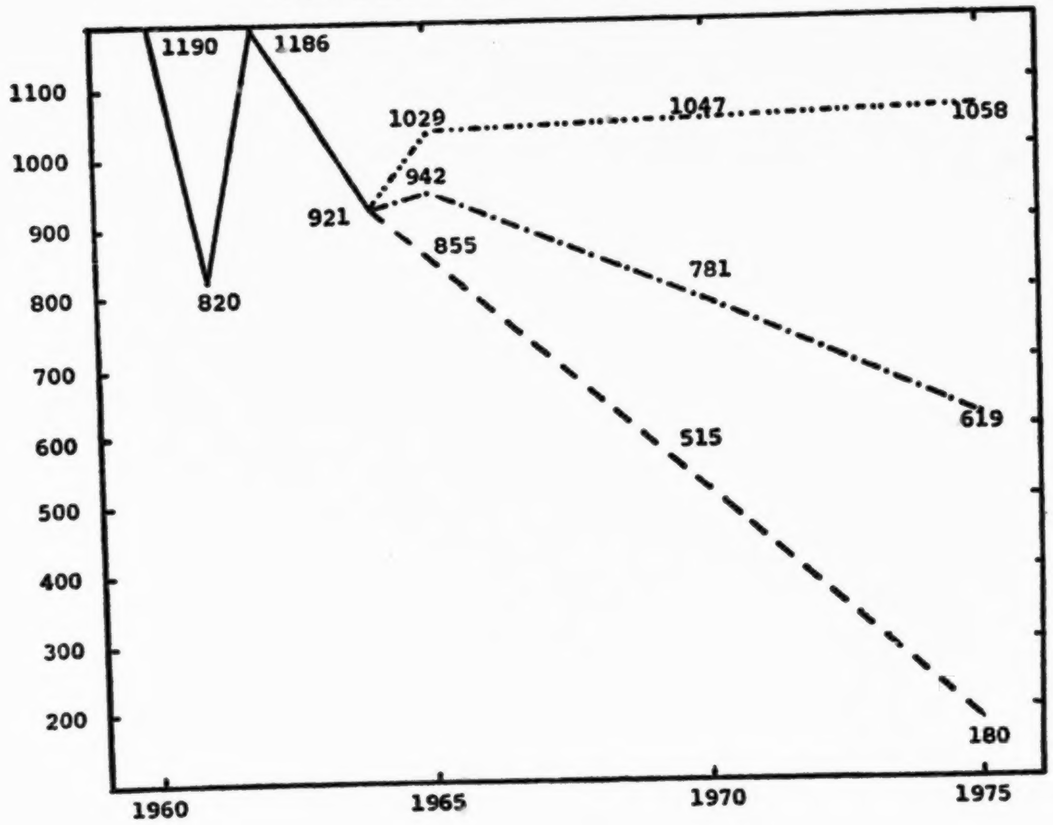


FIGURE 5

ACTUAL AND PROJECTED ENROLLMENT POTENTIAL IN DAY LITERACY PROGRAMS–SEATTLE COMMUNITY COLLEGE, 1963-1975

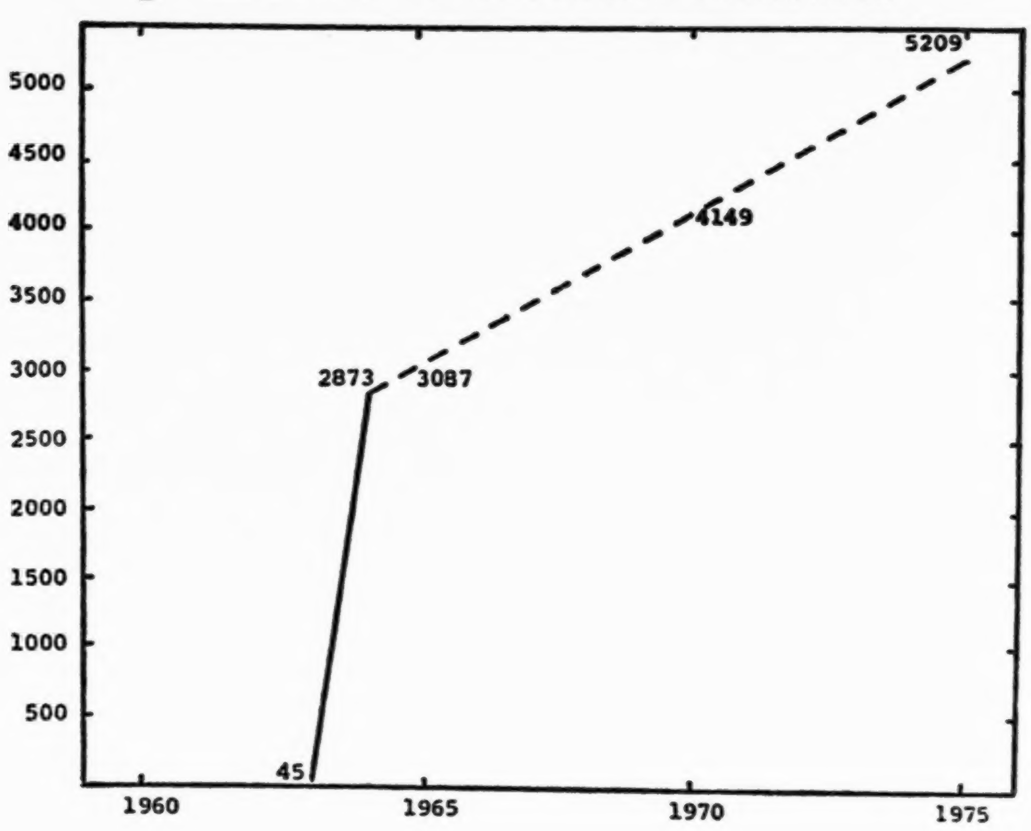


FIGURE 6

ACTUAL AND PROJECTED ENROLLMENT POTENTIAL IN OTHER NON-TRANSFER PROGRAMS–SEATTLE COMMUNITY COLLEGE, 1963-1975

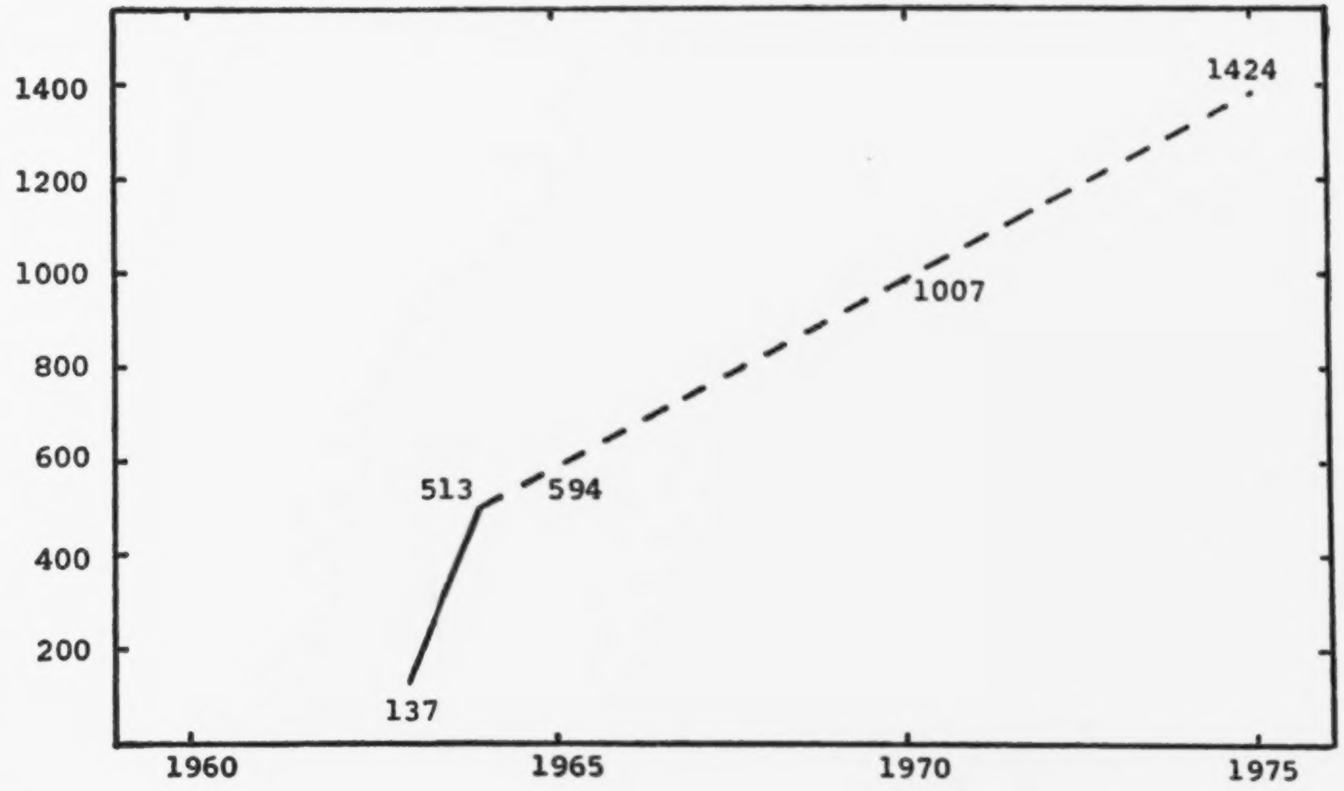
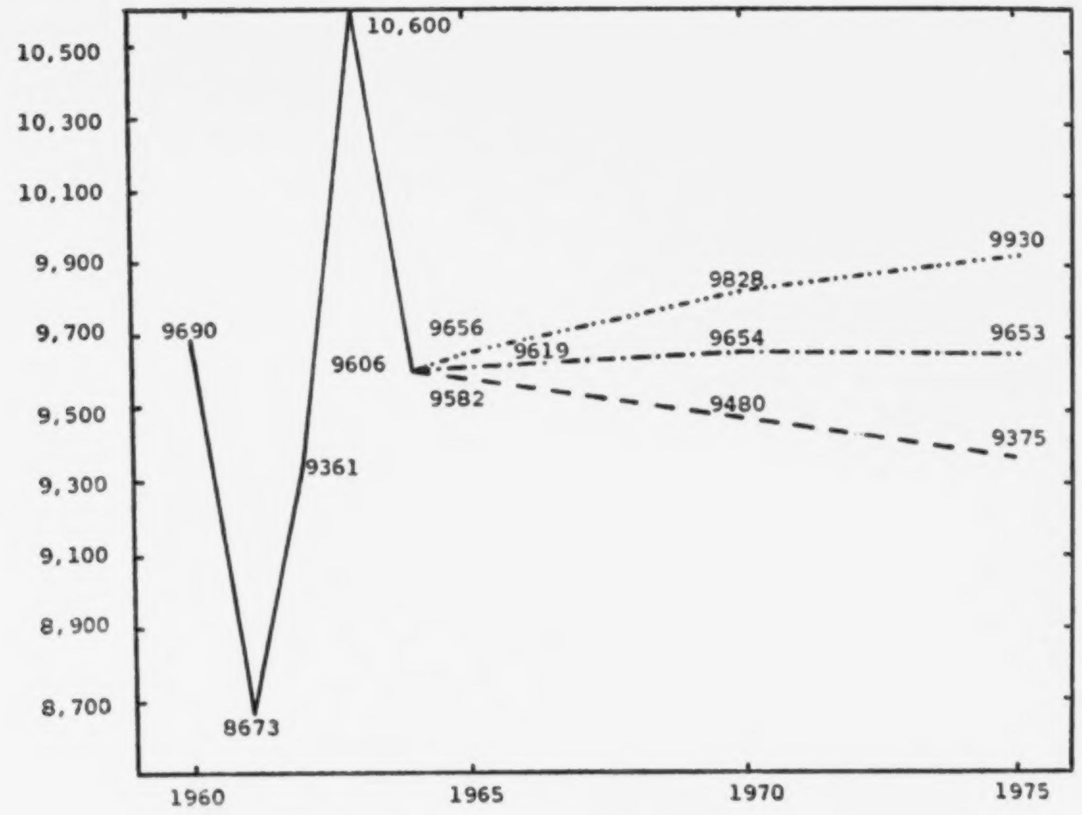


FIGURE 7

ACTUAL AND PROJECTED DAY ENROLLMENT POTENTIAL
IN ADULT GENERAL EDUCATION–SEATTLE COMMUNITY COLLEGE, 1960-1975



(5) The number of Seattle high school graduates attending community colleges located outside of the city will be approximately equal to those attending Seattle Community College from communities outside of Seattle.

(b) The technique involved the use of the following steps:

(1) The percentage of graduates entering community colleges from the most recent high school graduating class was computed to obtain an annual rate of entrance for each year of a three-year period.

(2) The annual percentage rate, adjusted to include the annual increase, was applied to each of the succeeding projected high school graduating classes to determine the number from each class who would enroll in a community college each succeeding fall. This process was followed until a projection was obtained for each year through 1975. This projection provided the potential number of students who would possibly enroll in September of each year following graduation in the spring.

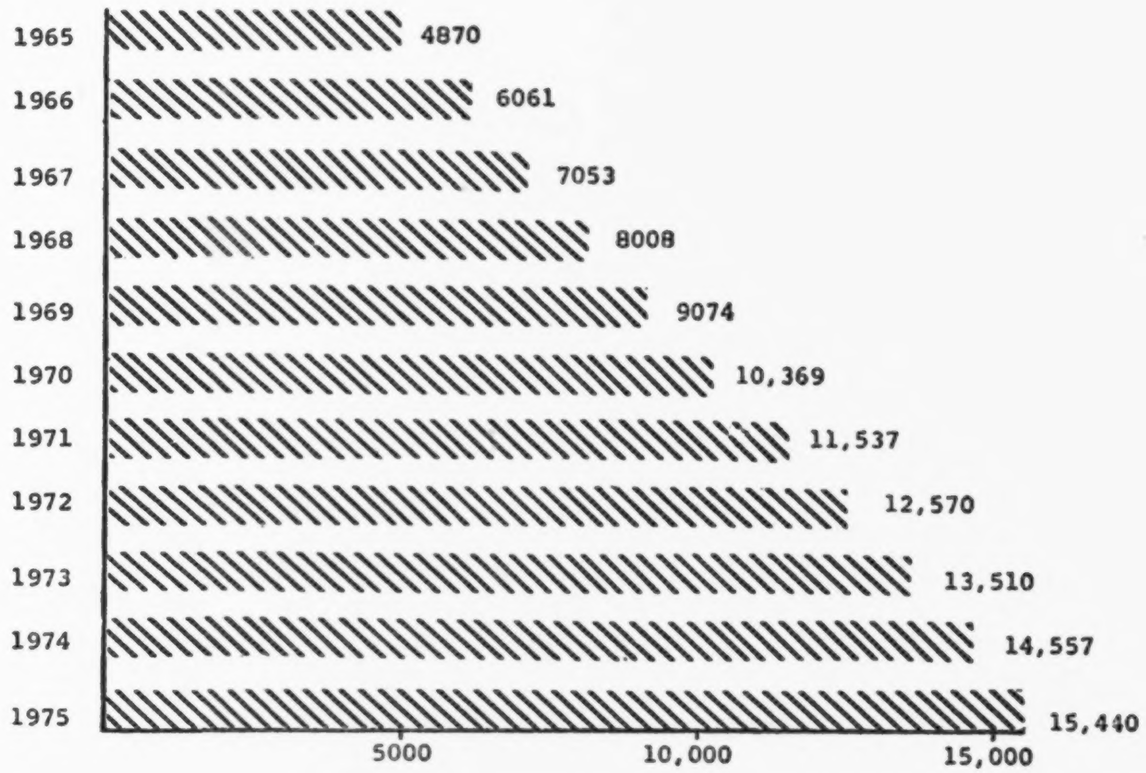
(3) The same procedure as outlined in (1) and (2) above was used to project the number who would enroll in a Seattle Community College from the graduating class of the previous year.

(4) The projections obtained for the current and the previous years were summed to obtain the potential enrollments from the last two graduating classes. This process was continued until a projection was obtained for each year through 1975.

(5) A conversion factor was derived as a basis for converting the number of graduates from the previous two graduating classes to the total projected enrollment potential. This conversion factor is a constant derived from an average of data available for the years 1963 through 1965. Figure 8 shows the projected enrollment potential for the transfer and associate degree programs.

FIGURE 8

PROJECTED DAY ENROLLMENT POTENTIAL
SEATTLE COMMUNITY COLLEGE, 1965-1975



Summary

This section of the report has presented the techniques used in the projection of the enrollment potential for Seattle's Community College. The data presented herein indicate that Seattle's Community College should have a potential enrollment of 15,440 full-time equivalent students by 1975. Experience from other cities where industrial development is somewhat comparable to Seattle indicates that a mature community college program will perhaps produce an enrollment mix of approximately 40 per cent occupational and 60 per cent college transfer students. While statistical data projected for Seattle show a 3:1 mix of transfer to occupational enrollment, the Consultants recommend that planning be based on 60 per cent transfer and adult general education and 40 per cent occupational enrollment mix. Evening enrollments in trade extension, apprenticeship, and other programs will approximate 1,933 full-time equivalent students and are not included in the projected totals shown in Figure 8. Total day and evening full and part-time enrollments may approximate 55,000 by 1975, if facilities and appropriate programs are made available to Seattle's population.

III

NUMBER AND LOCATION OF CENTERS REQUIRED FOR THE LONG-RANGE DEVELOPMENT OF SEATTLE COMMUNITY COLLEGE

General

A critical decision in planning for the development of Seattle Community College relates to the number and location of centers required to serve Seattle's population adequately. A number of significant factors must be considered before a decision is made, particularly if the long-range development plan is to contribute to the achievement of an effective community college program. The factors to be considered should include the geographical characteristics of the City, the City's present and probable future population centers, patterns of land use, the proposed development of freeways and expressways in the City, the availability of public transportation, the location of other community colleges, the number and geographic distribution of high school graduates and the projected student potential, the optimum size of a community college center, the provision of equal educational opportunities for all ethnic groups, the availability of land for community college sites, and coordination of the college plan with the long-range planning of the school district and other public planning agencies.

It is the purpose of this section of the report to analyze and discuss the foregoing factors and to assess their implications for the long-range development of Seattle Community College.

Geographical Characteristics of the City of Seattle

Seattle is the largest city in the State of Washington. It is located on the Eastern shore of Puget Sound. The City occupies a relatively long and narrow mass of land bounded on the east by Lake Washington and on the west by the waters of Puget Sound. The general configuration of the land mass is somewhat similar to that of an hour glass —narrow across the center and wider at the extremities.

The city lies amidst a series of valleys and seven hills. The topography resulting from the hill and valley configuration is a series of high bluffs, plateaus, ridges, and land troughs making some land impractical to use for residential and industrial development. The land mass to the north is separated from the central and southern portions of the city by the Salmon Bay Waterway, the Lake Washington Canal, Lake Union and Portage and Union Bays. The eastern and western portions of the southern part of the city are divided geographically by the Duwamish River and its Waterway. In effect, the city of Seattle lies in three separate land masses created by the waterways, rivers, and lakes of the area.

As a result of the city's basic geographical characteristics, a number of natural barriers have been created. These in turn have created conditions which make access to the various parts of the city difficult. Likewise, natural boundaries created by waterways and high bluffs divide the city into approximately three main geographic regions. Expressways and freeways, however, are planned and are being constructed which will improve the access and tend to give greater unity to the city as a geographic unit. Nonetheless, due to the elongated land mass which characterizes Seattle, access to its extremities will always be inconvenient and difficult.

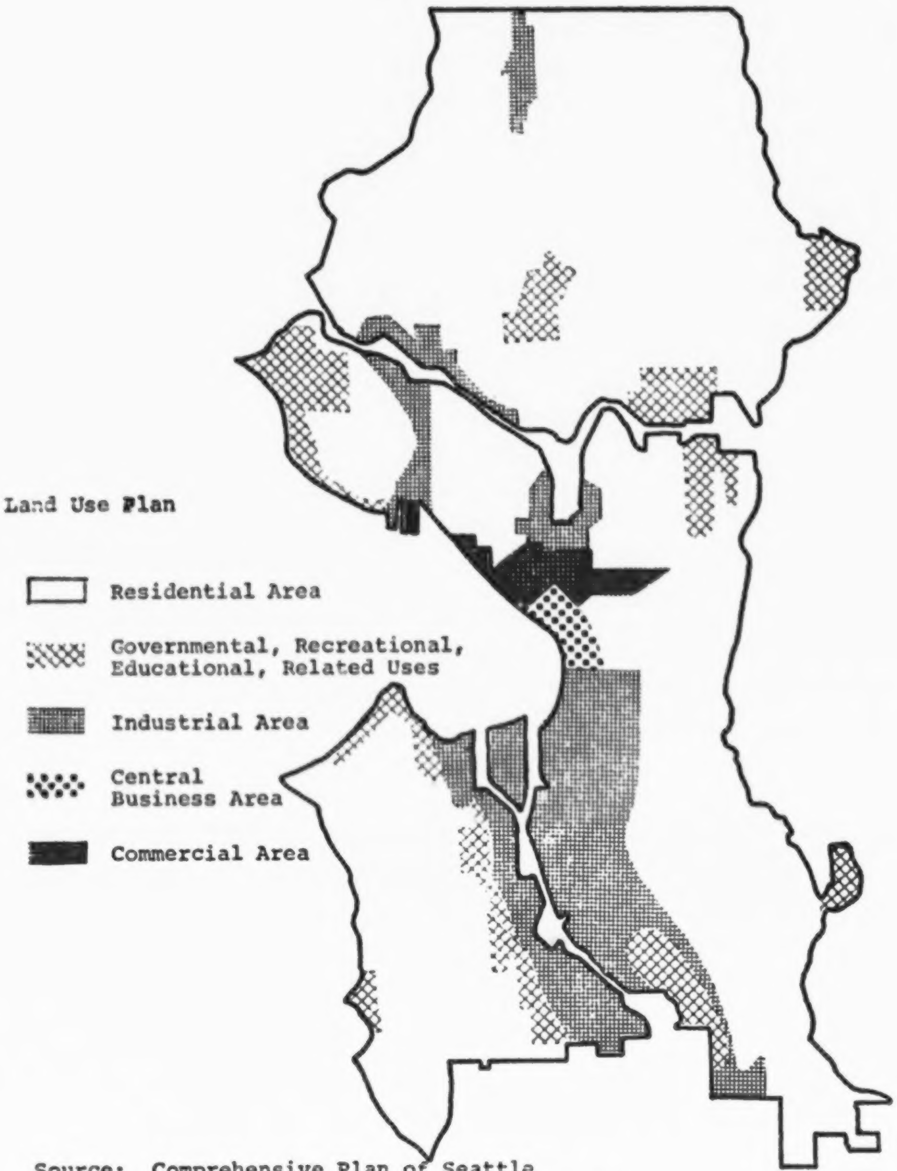
Patterns of Land Use

The City of Seattle Planning Commission has developed and distributed a "Comprehensive Plan of Seattle." A generalized conception of this plan is shown in Map 1. This plan includes proposals relating to land use, community and neighborhood development and business, commercial and industrial areas. The proposed land use plan has implications for the preparation of the long-range plans for the Seattle Community College. Consideration should be given to natural and potential man-made barriers which are apparent in the plan. While the proposed freeway development plan may transcend these barriers, local traffic congestion and undesirable environmental conditions in a specific part of the city can make a potentially satisfactory site otherwise undesirable.

The "Comprehensive Plan of Seattle" proposed that a strip of land extending from Elliott Bay on the north to Glendale and Southgate to the south along the Duwamish River be devoted to industrial uses. The central part of the city extending from north to south from Lake Union to the industrial area referred to above has been proposed for industrial and business uses. A community college center could perhaps profit from a location near selected business and light industrial es-

MAP 1

GENERALIZED LAND USE PLAN
CITY OF SEATTLE



Source: Comprehensive Plan of Seattle
City of Seattle Planning Commission

tablishments; however, the noise, traffic, and general environmental conditions usually surrounding heavy industrial sites are considered undesirable as a next door neighbor to a community college. General proximity to industry is desirable, however, for convenience of students who may be employed part time or may be involved in on-the-job training programs.

Residential development patterns shown in the plan indicate heavy residential development east and west of the south industrial district and in the area north of the Lake Washington Canal and the Salmon Waterway.

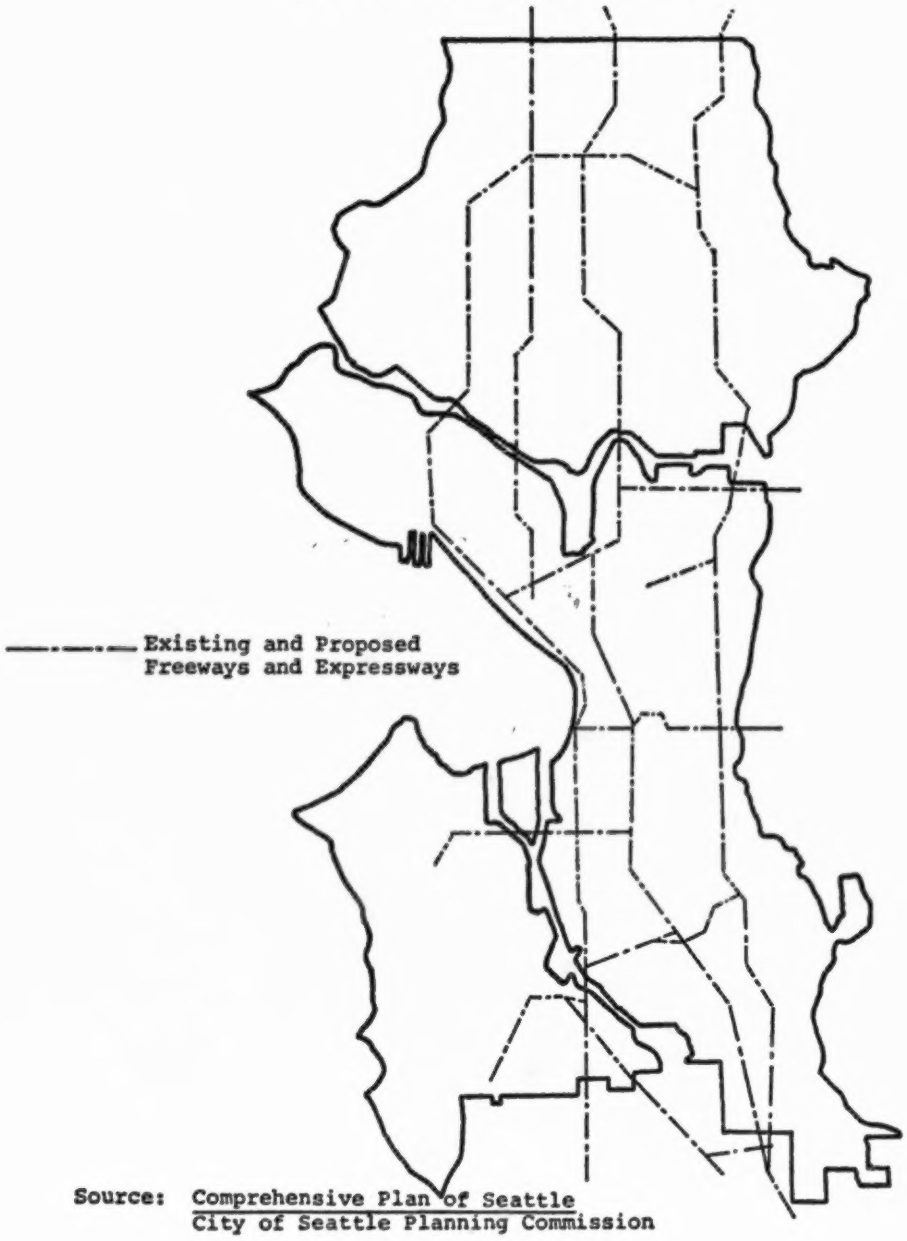
The proposed plan for land use in Seattle suggests that for convenience of access more than one college campus would be desirable to avoid mass movement of people through the heavy traffic and congestion of industrial and business areas.

The Proposed Development of Freeways and Expressways

The location of community college centers in relationship to freeways and expressways is of significance due to the special nature of the potential student body to be served. The community college will serve a population of commuters; therefore careful coordination of site locations with the proposed future development of the freeway and expressway system will serve to enhance the accessibility of students to potential college centers. While the community college site need not be located on a freeway or even on a major arterial, locating centers near freeway interchanges improves access and transit time to reach the college and limits the amount of traffic and congestion within residential areas in the vicinity of the campus. Experience has clearly demonstrated that traffic safety is greatly enhanced when freeways and freeway interchanges serve as the principal means of access to nearby major arterials leading to the site. The proposed freeway system is shown in Map 2.

Student travel time to reach potential sites is also a factor of major significance and is directly related to the extent of development of a freeway system. While day students will usually travel farther and longer than part-time evening students, the time-distance factor may affect for better or worse the attendance at the community college. While there is no research on the desirable minimum travel time to reach a community college, perhaps known home-to-work travel times

MAP 2
PROPOSED FREEWAY AND EXPRESSWAY DEVELOPMENT PLAN, CITY OF SEATTLE



Source: Comprehensive Plan of Seattle
City of Seattle Planning Commission

for commuters and their effects on urban development generally would suggest a possible answer.[1] Based on known home-to-work travel times in the Puget Sound area, the optimum commuting time one-way should be not more than 20-25 minutes for 75-90 per cent of the potential enrollments of the college. College centers located near freeways and interchanges provide a definite advantage to the commuting student.

The Availability of Public Transportation

Public transportation in Seattle provides an extensive network of bus routes to serve a large commuting population. This network of bus routes provides service to most residential areas of the city. While public transportation is organized to move people to downtown connections in Seattle, it can serve the commuting community college population if planning is coordinated with the plan for the public transportation system.

The City's Present and Probable Future Population Growth

Table 4 shows the trends in the total population of the City from 1900 through 1960 and the population forecast for 1970 and 1975.

TABLE 4
TRENDS IN TOTAL POPULATION FOR SEATTLE
1900-1975

Year	Number	Index[1]	Percentage of County Total
1900	80,671	100.00	----
1910	237,194	293.70	----
1920	315,312	390.86	83.1
1930	365,583	453.18	82.6
1940	368,302	456.55	78.6
1950	467,591	597.63	71.6
1960	557,087	690.57	59.6
1965	566,000[E]	701.62	53.7
1970	572,000[P]	709.05	48.3
1975	577,000[P]	715.25	43.5

[1] 1900 used as base year.
[E]—Estimated
[P]—Projected
Source: City of Seattle Planning Department, "Population Changes in the City of Seattle: 1900-1960."

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[1] Bayard O. Wheeler, "Effect of Freeway Access upon Suburban Real Property Values," Washington State Council for Highway Research, Seattle (University of Washington), 1956.

The City grew rapidly from 1900 to 1930 when an increase in population of approximately 450 per cent occurred. The City's percentage of the total county population declined consistently at an accelerated rate from 1920 to 1960. According to the City Planning Commission, only a major shift to apartment type living by a large segment of the population can reverse the trend of the last forty years and this is not expected to occur.[2] Map 3 shows the population of the city by major divisions of groupings by 1960 census tracts. The population for 1960 and the population forecast for 1975 are shown. In 1960, 41.6 per cent of Seattle's population lived on the land area north of the Lake Washington Canal. This area will be referred to as North Seattle. Similarly, in 1960 approximately 28.1 per cent of the City's population lived in the central area which includes the major divisions of Magnolia Queen Anne, Downtown, and Capitol Hill-Madrona. This area will be referred to as the Metro area. The remaining 30.3 per cent lived in the south Seattle area which includes the major divisions of Rainier Valley-Mount Baker, Columbia-Rainier Beach and West Seattle. This area will be referred to as South Seattle.

The implications are that the population of the north and south Seattle areas are expected to grow very little in the next ten years while the population of the central Seattle area is expected to decline.

While the North, Metro, and South Seattle areas as designated are not discrete population centers, they do represent areas that can be defined geographically in terms of natural and man-made barriers. Furthermore, the three areas represent logical population areas for planning purposes due to the peculiar geographical characteristics of the City.

The Location of Other Community Colleges

Map 4 shows the location of existing and proposed community colleges in the State of Washington. Those colleges in existence in 1963 enrolled 20 per cent of the high school seniors who graduated that year. Data available show that an increasing number of high

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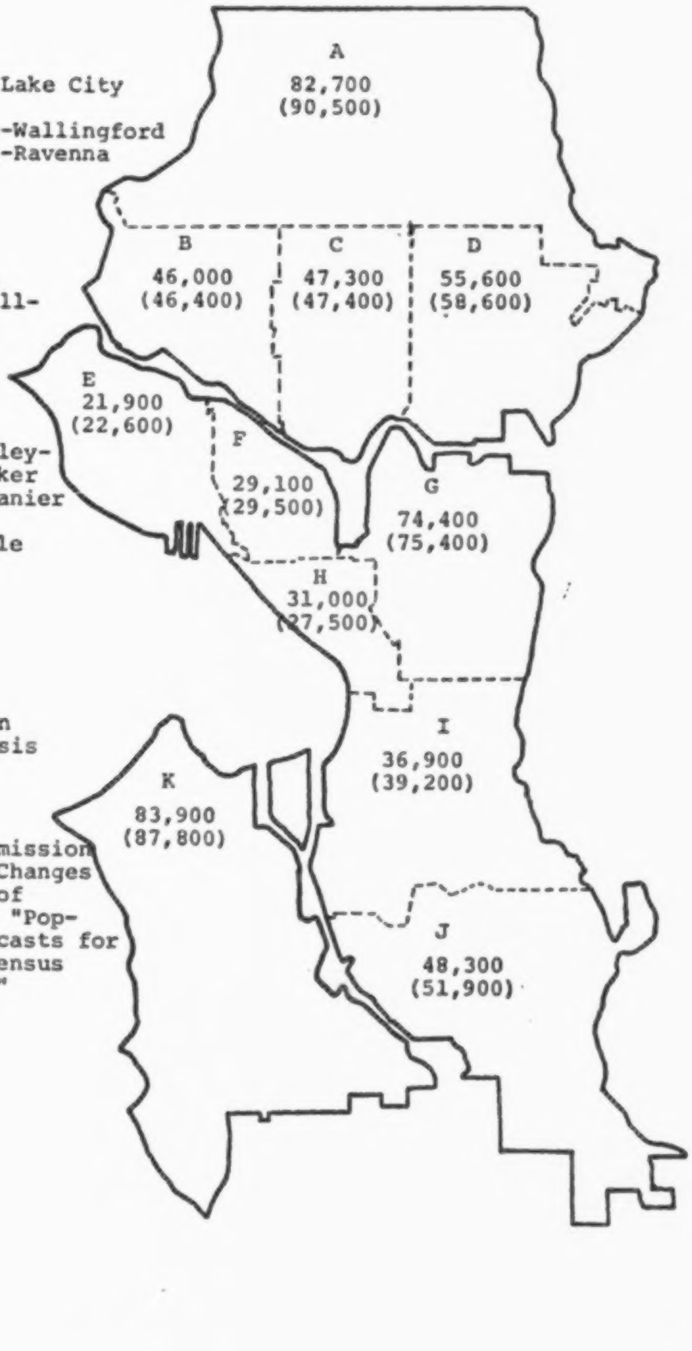
[2] Seattle City Planning Commission, "Population Forecasts for Seattle by Census Tracts: 1985," 1963, p. 1.

MAP 3

PROJECTED POPULATION OF THE CITY OF SEATTLE BY MAJOR CENSUS DIVISIONS 1960 AND 1975^{a}

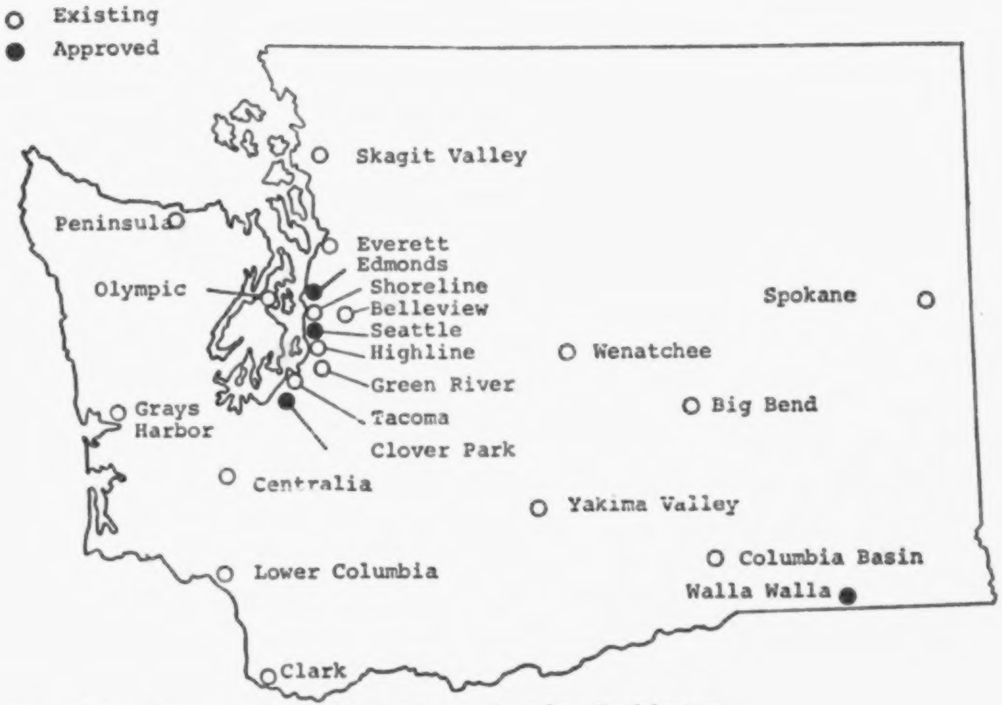


^{a}1975 Figure in Parenthesis

Source: City Planning Commission "Population Changes in the City of Seattle" and "Population Forecasts for Seattle by Census Tracts: 1985"

MAP 4

LOCATION OF APPROVED AND EXISTING
COMMUNITY COLLEGES IN THE STATE OF WASHINGTON
1966



Source: State Department of Education, Olympia, Washington school seniors are being served each year and that by 1970, 12 new community colleges in addition to those existing in 1963 will be needed to serve the anticipated enrollment.[3]

A study of community college needs in King County completed in 1961 revealed a need for five community colleges by 1965 and seven to ten in the King County area by 1985.[4] The existing institutions plus those authorized by the 1963 Legislature are far short of the number of institutions needed to provide for anticipated enrollment in Washington and the King County area.

In the fall of 1965, there were 3,943 Seattle high school graduates enrolled in Washington Junior Colleges. Of that number 1,360 were 1965 graduates of Seattle high schools.

The significance of this discussion relates to the question of how will existing community colleges affect the location and number of centers required to serve Seattle? This question can be answered only partially from the experience of colleges in the State of Washington. The growing demand for post high school education and the projected requirements for community colleges points to the need for a system of colleges to serve Seattle's population if adequate services are to be available. As far as the effect of other community colleges on the location of Seattle's system is concerned, experience in other large cities such as Chicago has demonstrated that the proximity of a college campus to its students is a major consideration in attracting its student potential. A study of one Chicago Center in 1958 showed that it drew over 85 per cent of its students from homes within four miles of the campus.[5] A study in 1964 showed that 68 per cent of the total 1963 enrollment in Chicago community colleges came from homes located within a radius of five miles of the existing campuses.[6] Consequently, it would appear that in urban areas, college campuses located four to five miles apart is a reasonable possibility. Furthermore, experience has shown that educational opportunities are more effectively accessible when the campuses are located in close proximity to student residences.

Highline College is located approximately 12-15 miles south of downtown Seattle and Shoreline is 10-12 miles north. Seattle's population density is such that colleges located within four to five miles of each other should prove advantageous to the potential students and, at the same time, not adversely affect the enrollments at existing institutions.

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[3] State Department of Education, "Financing New Community Colleges. Who Pays and How Much?" p. 2.

[4] King County Planning Department.

[5] Cliff Erickson, "Multi-Campus Operation in the Big City," *Junior College Journal*, (October, 1964) p. 19.

[6] Chicago Public Schools, *Study Report Number 10, 1964 Series*, August, 1964.

High School Graduates and the Projected Student Potential

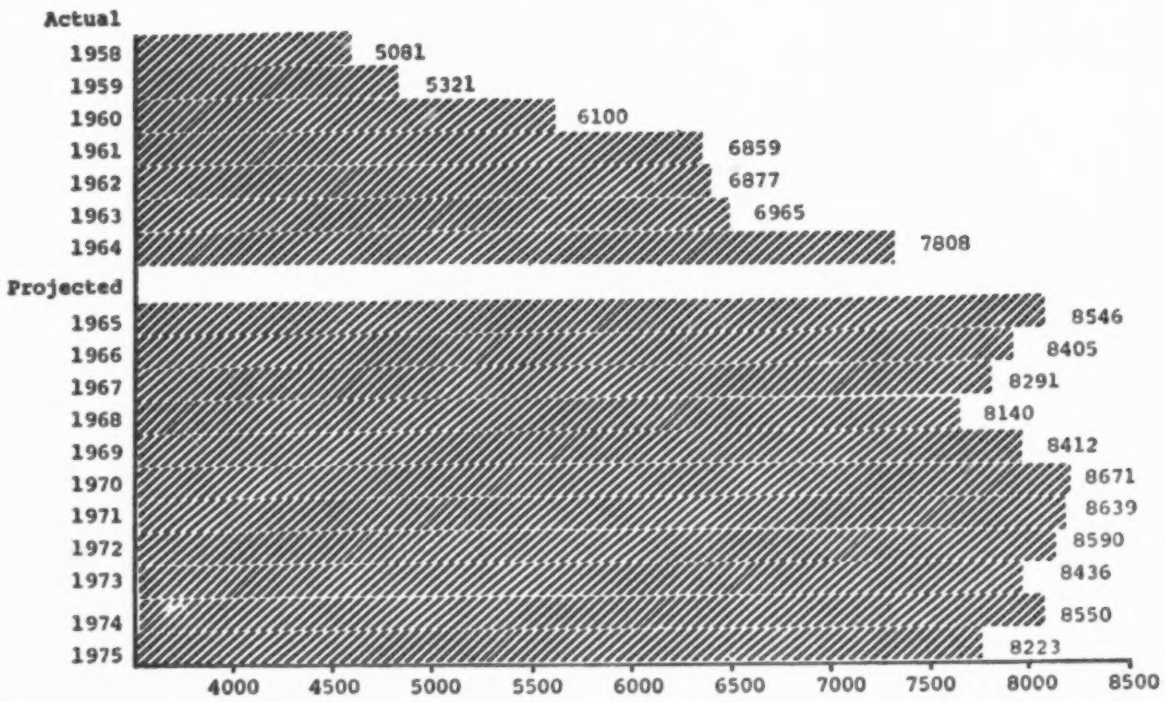
Figure 9 shows the actual and projected high school graduates for Seattle. Included are graduates of both public and private high schools. The projections indicate that the number of graduates will increase until 1970 and probably will decline thereafter until at least 1975.

Map 5 shows the location of the public high schools in the Seattle School District and the number of 1965 graduates from each. It is significant to note that approximately 46 per cent of Seattle's public high school graduates were from schools located in the north Seattle area, approximately 16 per cent were from schools in the central Seattle area and approximately 38 per cent from the southern part of Seattle. This configuration of percentages varies somewhat from those derived from the total city population data. However, the percentages relating to high school graduates are higher for the northern and southern areas of the City and lower for the central part of the City. The data show clearly that the largest potential of high school graduates is in the northern part of the City with the lowest in the central part.

The total projected student potential for Seattle is positively correlated with the number of high school graduates. Therefore, it is reasonable to assume that the potential community college enrollments in the three geographic areas of the city will correlate positively with the number of high school graduates. Consequently, it is reasonable to conclude that the largest enrollment potential is in the north Seattle area and the smallest in the central area of the city. If the percentages of high school graduates by geographic area are applied to the projected student potential in 1975, the potential for the northern, central, and southern Seattle areas would be approximately 7,000, 2,500, and 5,800 respectively. It is probable, however, that the potential in the central Seattle area will be less than expected due to the fact that the total population of the area is expected to decline by 1975.

FIGURE 9

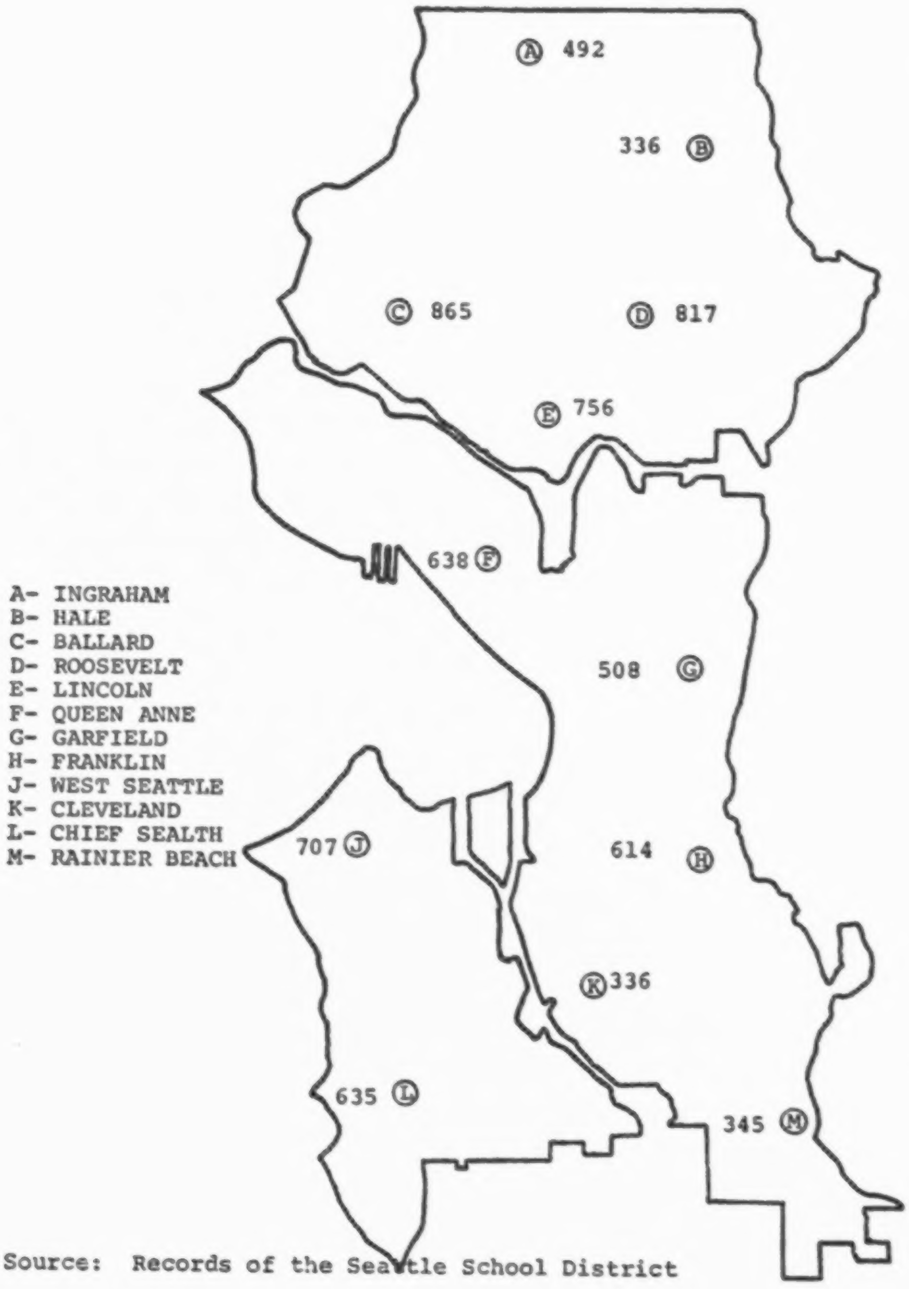
ACTUAL AND PROJECTED HIGH SCHOOL GRADUATES
PRIVATE AND PUBLIC HIGH SCHOOLS, CITY OF SEATTLE



Source: Records of the Seattle School District and the Private Schools of the City.

MAP 5

THE LOCATION OF HIGH SCHOOLS IN SEATTLE
AND THE NUMBER OF HIGH SCHOOL GRADUATES IN 1965



Source: Records of the Seattle School District

Availability of Land for Community College Sites

Studies made by the City Planning Commission indicate that vacant residential land is disappearing rapidly in Seattle. In 1950, there were 46,000 residential sites and approximately 17,000 were available in 1960. Broadview-Lake City in north Seattle and west Seattle and Columbia-Rainier Beach in the south Seattle area held 77 per cent of the residential sites in 1960. Since 1950, home sites in the Ballard, Greenlake-Wallingford, Queen Anne and downtown areas have all but disappeared with the exception of a scattered few.

The School District owns sites at the Edison Technical School and Summit in the central area. The Edison School site is a potential campus for development in the long-range planning for the community college.

Sites at Ft. Lawton and the U. S. Naval Supply Depot are likely to be made available to the public in the near future. While the locations of these sites are not suitable for the early phases of campus development, the Ft. Lawton site particularly would be a suitable permanent location for a fourth campus perhaps after the first ten-year program is completed. Likewise, its facilities could prove an invaluable asset during the early development of the college as a temporary location for a part of the program.

While large tracts of land are a scarce item in Seattle, there appears to be a sufficient number of potential sites to make possible the acquisition of land needed for the long-range program of the community college.

Coordination of the Long-Range Plan with Other Planning Agencies

During the planning phase, extensive contact has been maintained with the City Planning Commission particularly in the investigation made of available sites for the community college. A fine cooperative spirit has prevailed and much assistance has been provided by staff members of the Commission. An effort has been made to express needs and desires to as many affected city officials as possible. The Consultants are of the opinion that close coordination with the City Planning Commission should be a continuing effort.

The location of campuses affect automobile traffic patterns, public transportation demands, and requirements for utility services, as well. If college development is to be expedited, careful coordination with the affected city department is essential.

The community college campus offers opportunity to high school pupils for educational experiences not otherwise available to them. The proposed community college development plan should enhance the opportunities for high school youth, who have been selected because of their potential or special achievement, to use the college facilities for programs developed especially for them. The community college plan should be coordinated with the District's long-range plan for high school development. The proposals for community college development make it possible for the North and South Campuses to be expanded into educational parks should the District follow through with the development of such a plan as has been suggested.

The Provision of Equal Educational Opportunities

Educational leaders charged with planning Seattle Community College facilities are keenly aware of the educational problems present in communities whose make-up represents a broad cultural band of varying ethnic, religious, social, and economic backgrounds. The positive instructions of the school administration and the school board that the new college facilities shall militate against *de facto* segregation and enhance integration clearly establishes the overall social goals of this emerging institution.

School communities the width and breadth of these United States have tried various manipulatory devices to minimize *de facto* segregation. Bus transportation, open enrollment, pupil assignment to secure balanced enrollment, shifting of school attendance boundaries, and reorganization of grade groups have all been tried, and the village school or educational park concept has been advocated. Most of these plans have worked somewhere in the Nation for a time and have helped some children. When introduced they have been useful as symbols of intentions and have in practice increased educational opportunity for some.[7] The limited success of these ventures may have been guaranteed by the unilateral approach to a social problem. There may well be some real question about the predicted success of methods of solving

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[7] A.A.S.A. Special Commission on School Racial Policy, *School Racial Policy*, A.A.S.A. Washington, D. C. 1966, p. 21.

de facto segregation by school forces alone in a problem area that is concerned with home locations, job opportunities, and a positive self image. Map 6 shows the concentration of Negro residences in the city.

There seems to be a need for a new approach to the problem, one which will help the adult to develop more hope for the future because he sees an opportunity through education to raise his own level of competence and hence improve his vision of the future. If this opportunity is to be realized by the minority groups, it probably will come through adult education and a permissiveness in city housing ordinances that will enable a person to live in the geographical location and social position that his economic and social competence support.

A basic philosophical principle of the "community college idea" is the "open door" policy. The "open door" simply means that any individual who can profit from instruction can register and attend a community college. Attendant with the phrase "who can profit from instruction" is the very real danger of controlling attendance by inappropriate or restricted course offerings. In a situation like this, an educational opportunity does not really exist. Rather it provides the learner with more concrete evidence that he is a failure. A man does not have an educational opportunity when he can find nothing offered at a level of difficulty adjusted to his ability to succeed.

Seattle is a large metropolitan area with a potential for adult education in excess of fifteen thousand men and women. This is a formidable number even for a selective major university to handle. The problem becomes more difficult when it is necessary to work with practically all enrollees on an individual basis.

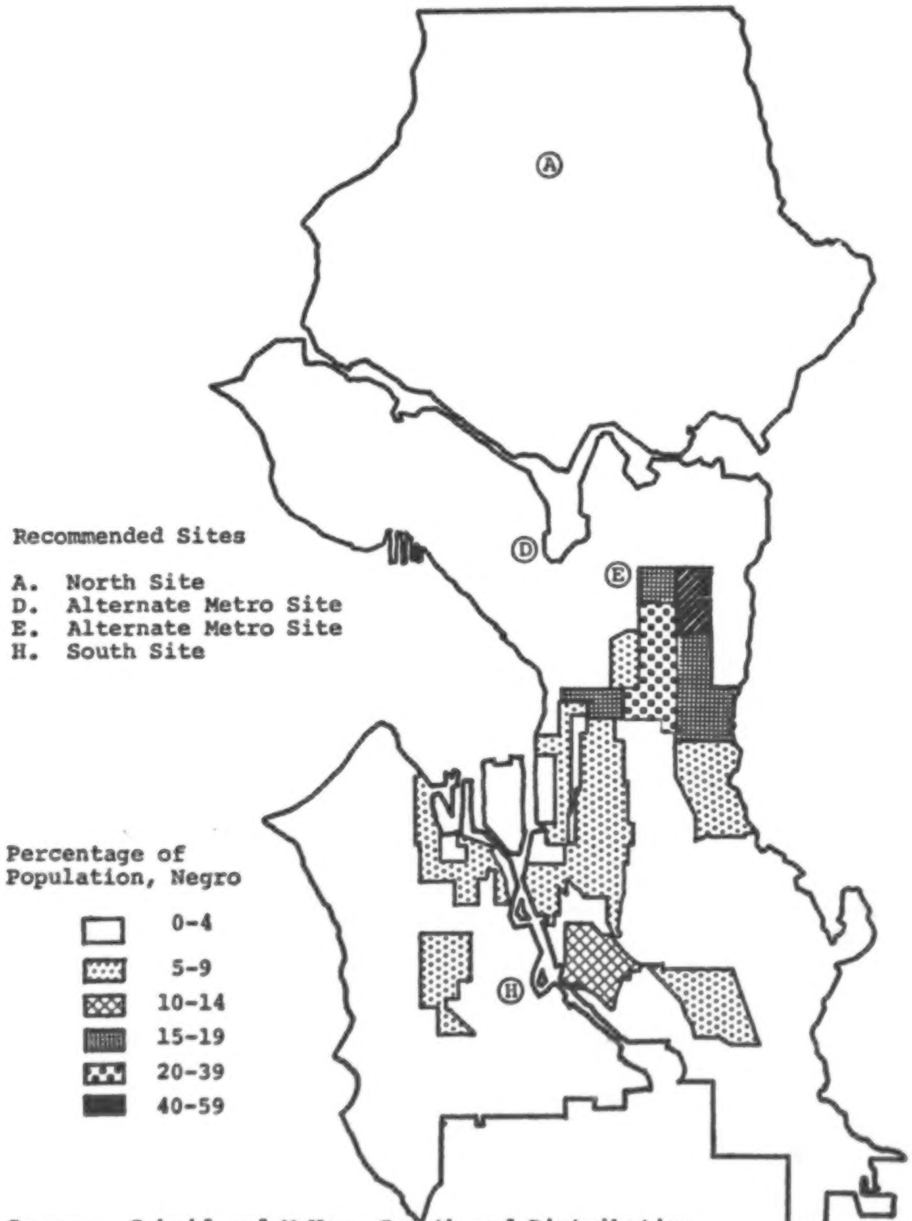
If an opportunity to improve one's station in life for the disadvantaged is to exist, the community college must become an institution very intimately related to its enrollees through its guidance program and the teaching-learning process. This suggests to the planners a need to minimize the size of the institution.

The proposal put forth is to establish at least three community college campuses in Seattle. Each campus will be of a size of manageable proportions. The plan has as its basic genesis the desire to provide education to all no matter what his age may be, his intellectual potential or his present state of development.

It is proposed that each campus will provide a program of college transfer, a program of adult general education, and a program of occupational education. A balancing of the cultural sub-groups will be

MAP 6

PERCENTAGE DISTRIBUTION OF POPULATION WHICH IS NEGRO IN RELATION TO RECOMMENDED COMMUNITY COLLEGE SITES



Source: Schmid and McVey, *Growth and Distribution of Minority Races in Seattle, Washington* achieved by pre-determining on what campus each course offering will be made. The careful management of course offerings become a significant factor in guaranteeing the widest possible distribution of all learning groups among these campuses. Beyond the common learnings the development of special offerings will influence the kinds and types of students enrolling on each campus.

If true equal educational opportunity is to exist for the people of Seattle it suggests the need for a new type of teaching program where content is organized in terms of the learner's ability to comprehend; where a man can succeed in learning because his teachers know him and are willing to help; where success for a man to become something more than he was, is possible; and where the student is a respected individual regardless of his color, his creed or his station in life, because he desires to learn.

Experience with other community colleges trying to achieve this unique place in education indicates that Seattle should have a multi-campus development. To be successful, the college must individualize instruction, decentralize its programs and devise ways and means of teaching at the level of comprehension at which it finds its students can succeed.

Optimum Size of Community Colleges

Recent research on the optimum size of community colleges in urban areas is practically non-existent. Studies made more than ten years ago have suggested some guidelines; however, Eberle, for example, in 1953 suggested that 1500 FTE students was an optimum figure.[8] He also stated that college going patterns in the area and the level of participation in adult education programs would perhaps modify the suggested optimum figure.

The Washington State Board of Education has stated that community colleges should "preferably not exceed an enrollment of 2500 students except in metropolitan areas where the concentration of population necessitates larger institutions."[9] This suggests that perhaps there is justification for community colleges of larger than 2500 enrollment in an urban area such as Seattle.

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[8] August W. Eberle, "Size of Satisfactory Community Colleges," Summaries of Doctoral Dissertations, University of Wisconsin, Vol. 14, 1952-53, p. 362.

[9] State Board of Education, "Long-Range Development Plan for Community Colleges," January, 1965, p. 15.

The Consultants believe that it is impossible to establish a fixed enrollment capacity that will hold unalterably true in all situations. Basic considerations involved in determining what is optimum for Seattle must inevitably be found in the exigencies of the situation that prevail there. Consideration must be given to the projection of the student population, freeway development, and time-distance factors for travel, availability of land for sites, and the cost of duplicating certain types of programs and physical facilities. Experience in other urban areas can provide guidelines of significance to Seattle.

Seattle's community college program anticipates the participation of a large number of adults in both occupational and general education programs. Experience has shown that in order to offer some types of occupational programs, it is imperative that large numbers of persons be brought together in one place to justify it. Data in this study support the contention that FTE enrollments up to 5000 at a single center may be essential to provide the capacity in selected specialized facilities in order to make them economically feasible.

The time-distance factor has been discussed elsewhere in this report. During peak traffic hours, Seattle's freeway and arterial system becomes extremely congested. At other times, travel by car from various parts of the city is reasonably convenient. Distances of 4-5 miles can be traveled by car in approximately 20 minutes. This suggests that approximately 4 to 5 miles may be a reasonable commuting radius for students attending a community college in Seattle. Two or more centers would be needed to meet this criterion.

Open land is at a premium in Seattle. Data already discussed on vacant land show that vacant, buildable residential sites are scattered and few remain in the central part of Seattle. The Broadview-Lake City area in north Seattle, and west Seattle and Columbia-Rainier Beach in the southern part of Seattle in 1960 held approximately 77 per cent of the vacant lots in the city.[10] Thus the available land for sites appears to be in the northern and southern areas of Seattle. The District does own the Broadway site on which Edison Technical School is located. Thus it is possible that the availability of land would restrict the number of sites to perhaps as few as three areas conveniently accessible to the potential student enrollment. Again, three sites of approximately 5000 students appears to fit the situation.

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[10] City of Seattle Planning Commission, "Vacant Residential Land in the City of Seattle: 1960," p. 1.

The data on the projection of the student enrollment potential and its probable distribution indicates that the north and south areas are likely to produce more than 80 per cent of the total students. The 80 per cent may be more nearly equally divided between north and south which suggests that a campus to serve each area would make educational opportunities more accessible to the people. On the other hand, travel time and accessibility for those in the central area must also be considered. Also, every effort must be made to eliminate the possibility that one campus may become a *de facto* segregated campus. To avoid this, a third campus offering a number of single unit curriculums not available elsewhere, and located outside of those areas that are or are likely to become ghettos would be desirable. Again, three campuses of 5000 FTE capacity would appear desirable to solve this problem.

The cost of duplicating facilities and curriculums are likely to be prohibitive in small campus operations. Such duplication is unlikely to occur when facilities and curriculums are provided for campuses with a student body of 5000 students. Student centers, libraries, and physical education facilities can be expensive if duplicated for groups of 2500 or less students. There is no evidence to show that 5000 students is an optimum point for economy in this regard. It is known however, that community colleges in other large cities have capacities between 4000 and 6000 full time students. As a matter of fact, the 1964 national enrollment data show only one community college in the Nation with a full time day enrollment of more than 6000 students.

The Consultants are convinced that a capacity of 5000 FTE students is a reasonable goal for community college campuses in Seattle.

Summary

This chapter has presented the basic considerations for determining the number and location of the community college campuses needed to serve Seattle by 1975. The following summarizes the pertinent points discussed in this chapter:

1. Due to geography, Seattle is divided into three separate land masses created by waterways, rivers, and lakes of the area. Furthermore, its long, hour glass shape makes access to its extremities difficult and inconvenient.
2. Natural and man-made barriers contribute to the already difficult problems of traversing the city from its extreme limits, north to

south. Land use patterns that exist in the city tend to increase this problem rather than reduce it. For example, the large industrial complex along the Duwamish Waterway acts as a barrier to movement from west Seattle to the downtown area.

3. The proposed freeway system will enhance both the accessibility of different parts of the city and improve the time-distance travel factor for commuting community college students. (A commuting time of 20-25 minutes for 75-90 per cent of the students is desirable.) The freeway will also tend to tie the total city areas together and give them greater geographic unity.
4. Public transportation is reasonably good but will be much enhanced with improved arterials and a rapid transit system, when developed. This will enhance the accessibility of community college campuses distributed throughout the city.
5. Seattle's population is distributed among north, central, and southern areas as follows:

North	41.6 per cent
Central	28.1 per cent
Southern	30.3 per cent

The projections to 1985 show a population increase to 42.4 per cent in north Seattle, 31.4 per cent for south Seattle, and a decline to 26.2 per cent in the central part of the city. These three areas represent logical population areas for planning purposes.

6. The location of other community colleges in the Seattle area should in no way affect the development of Seattle's community college program. Additional institutions are needed in the King County area to serve the growing demand for community college service. In 1965, other community colleges in the state enrolled 3943 high school graduates from Seattle high schools.
7. A multi-campus plan for urban campuses located 4-5 miles apart is a reasonable one for effective student accessibility.
8. The projected enrollment potential is positively correlated with the number of high school graduates in the city. Computations based on this assumption indicate that the student potential of the north, central, and southern areas of the city will approximate 7000, 2500, and 5800 in 1975.
9. While residential sites are few and scattered in the central Seattle area, more are available in the extreme southern and northern

parts of the city. Large tracts of land are practically non-existent although sites for three campuses are available for acquisition by the School District.

10. Location of community college campuses must be coordinated with city planning activities. Availability of access roads and utilities, and cooperation in site acquisition can benefit the planning of the community college program.

11. The provision of equal educational opportunities for diverse racial and cultural groups is a problem of major concern in planning for the development of the community college. A minimum of three campuses has been proposed with no attendance area boundaries. Each is to be located outside of the areas of the city likely to become ghettos. A mixing of racial groups will be accomplished by controlling the course offerings at each campus. The Metro Campus will offer courses not available at other campuses. In some instances, courses which are duplicated at only one other campus will be offered at the Metro Campus. Similarly, courses may be taught at the North and South Campuses which may not be taught at the Metro Campus. A student may enroll at more than one campus should he prefer to do so. This management of course offerings should help to guarantee the widest possible distribution of the various racial and ethnic groups in the city. This proposal which brings about both the inward movement of white groups and the outward movement of Negro and other racial groups from their residential areas should provide ample opportunity for bringing the various racial and ethnic groups together.

12. It is not possible to establish a fixed enrollment capacity for a community college campus that will hold unalterably true for for all situations. The city's geographic characteristics, commuting time and distance factors, the need for campus proximity to student residences and the distribution of Seattle's population point to the need for at least three community college campuses by 1975, each with capacities of approximately 5,000 FTE students.

IV

A REVIEW OF SITES PROPOSED FOR SEATTLE COMMUNITY COLLEGE

Introduction

It was reported in Chapter III that at least three sites will be needed for Seattle Community College prior to 1975. The geographic divisions of the city in which the proposed sites are to be located will be referred to as the North Seattle, the Metro (the Central region) and the South Seattle Areas. The purpose of this chapter is to review possible sites, to evaluate their adequacy for a community college program, and to recommend needed sites. The sites proposed for review by the Consultants are shown in Map 7.

Criteria for Site Selection

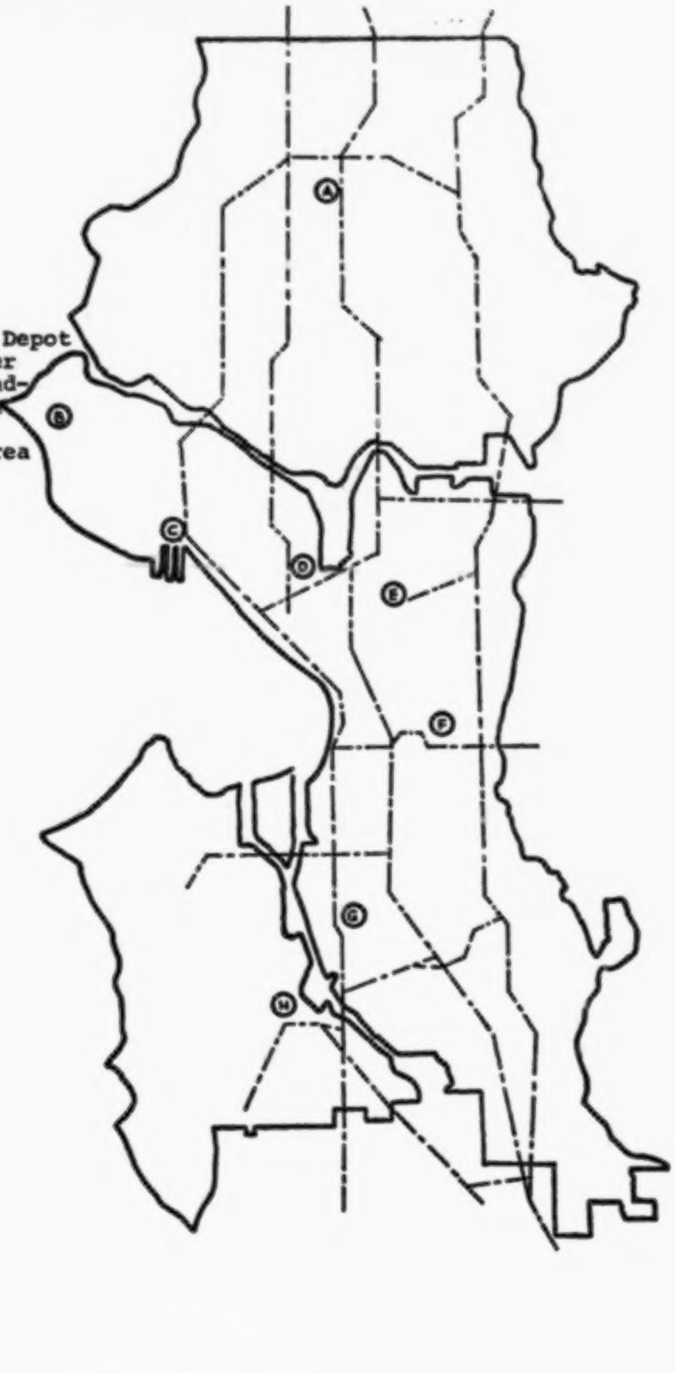
The choice of a building site is one of the most important decisions to be made in the planning of a community college. The site is a significant controlling factor in the ultimate design and development of the college's physical plant. Costs of operating the college, operating policies, and perhaps the services which are to be provided for the community by the college are influenced by the site. It inevitably influences the very character of the institution that ultimately unfolds.

Because of the importance of the site, its location, and its characteristics, the choice that is made must be based on criteria which are educationally sound and practically feasible. The following criteria were used by the Consultants in making their evaluation of the adequacy of sites proposed for use by the school district in the long-range planning and development of the community college plant:

1. Location
    a. The campus should be located in the approximate center of the projected service area and either within or in close proximity to the heaviest concentration of the population of the area.
    b. The campus should be located in an area that has ample zoning

MAP 7

LOCATION OF PROPOSED ALTERNATE SITES
SEATTLE COMMUNITY COLLEGE
SEATTLE SCHOOL DISTRICT



North

A. North Site

Metro

B. Fort Lawton
C. Naval Supply Depot
D. Seattle Center
E. Existing Broadway- Edison
F. Yesler
   Atlantic Area

South

G. Beacon Hill
H. South Site

restrictions to protect it from undesirable neighbors. Either residential areas, or areas serving selected types of businesses, or light industry are usually desirable.

  c. Close proximity and convenient access to business, industrial, and governmental establishments are desirable to the extent that reciprocal arrangements for educational experiences and student employment opportunities are made available.

2. Availability

   Generally, land for site use should be that which is readily available for purchase in order to avoid the unnecessary expense of legal action or subsequent ill will which may accompany the exercise of the right of eminent domain in acquiring a site. However, condemnation has proved to be an economical tool in numerous instances and should be used, if necessary, to aid in the acquisition of the most desirable sites available.

3. Environment

   a. The immediate surroundings should be conducive to an ongoing program of education and should not be disruptive of the formal learning situation created for the college campus.

   b. Hazards to life and property adjacent to or near the site should be at a minimum.

   c. Deleterious moral influences and public nuisances should be avoided.

   d. The main approach to the site should provide an attractive view of the campus, and the area surrounding the site should enhance the aesthetics in the vicinity of the site.

4. Accessibility

   a. Travel times and distances required to reach the site should be the minimum possible for the maximum number of the students who will attend.

   b. Natural and man-made barriers should not restrict the access to the site.

   c. Travel conditions such as type and condition of roads and streets, availability of expressways, etc. should enhance safe and rapid movement to and from the site in all seasons of the year.

d. Ingress and egress conditions at the site should enhance vehicular and pedestrian safety.

e. Adequate traffic control should be provided along major thoroughfares that bound the site.

5. Physical Characteristics

a. The size of the site should be adequate to provide for the educational services required to serve the ultimate projected enrollment of the proposed college. A conventional, multistory, campus type plan will usually require approximately 60 acres of land. A site acreage required for a high rise, loft type plan will vary depending upon the proposed plant capacity, the facilities required for parking, and the needs for physical education space.

b. The shape of the site should enhance the planning and development of the junior college campus. Extremely irregular shapes should be avoided so as not to limit maximum land use.

c. The topography of the site should enhance campus planning and development and permit maximum land utilization. A flat or gently sloping site can be more advantageously developed and used than one with drastic changes in ground elevations.

d. High elevation, natural ground and tree cover, and attractive view from approaches to the site should enhance the attractiveness of the potential campus.

e. Site orientation should make it possible to use to maximum advantage local weather phenomena — prevailing winds, solar angles and azimuth, snow conditions, etc.

f. Both surface and sub-surface drainage conditions of the site should be satisfactory both prior to and after site development.

g. Soil characteristics should show favorable conditions for footings, foundations, landscaping, and nursery plantings, and such other items necessary for the economical development of the site.

h. The physical attributes of the site should permit planning for the expansion of important elements of the college plant.

i. The natural features of the site should provide natural resources for use in the educational program of the college.

j. The natural features of the site should not restrict expansion and adaptability of the physical facilities to meet changing needs of the college.

6. Utilities and Other Public Services

   a. Public utilities such as water, electricity, and sewer should be available or furnished at reasonable cost.

   b. Rights-of-ways and easements situated on land for site use should be avoided.

   c. Public services such as police protection, fire protection, refuse and garbage disposal should be available.

7. Community Services
   Site location and physical features should be such as will encourage the community to use the facilities of the college.

8. Costs
   Initial purchase and long-range development costs of the site should be minimum.

A Site for the Campus in Northern Seattle

Extensive study of maps and aerial photos disclosed two possible sites properly located to serve as the North Campus for Seattle Community College. Both of these sites were located in the vicinity of the Northgate Shopping Center. Each has essentially the same physical characteristics. One of the two sites has been zoned, cleared and scheduled for development as part of the Northgate Shopping Center expansion. After investigation, the site located across the freeway and west of the shopping center appeared to be the one more feasible for acquisition and development as a community college site. The site is recommended as a satisfactory site and has been recommended for acquisition. A description of the site and evaluative comments are presented here.

1. Location

   a. This potential site is located west of the freeway (Interstate 5) in the general vicinity of the Northgate Shopping Center. It extends from North 92nd Street to North 103rd Street.

The east boundary is the freeway. The west boundary is Burke Avenue from North 92nd Street to North 100th Street and Wallingford Avenue from North 100th Street to North 103rd Street.

b. The potential site is located approximately in the center of the north Seattle area.

c. The potential site is readily accessible to areas both north and south as well as east and west. It lies between two freeway interchanges at North 85th Street and North 110th Street and overpasses at North 92nd Street and North 110th Street.

2. Availability.

The land is owned by numerous property holders and condemnation proceedings will probably be required to acquire much of the land.

3. Environment

a. Residential areas exist on two sides. Business property exists across the freeway to the east. A business site is located north of the property.

b. The general area is zoned RS 7200 which permits single family residences.

c. The residences in the area are low middle class homes and are in fair structural condition.

d. No hazards to life and property are prevalent in the area.

4. Accessibility

a. The availability of the expressway makes access to the site convenient.

b. Streets leading to the site are so arranged as to make ingress and egress conditions safe and convenient.

c. The area is presently served by public transportation on Meridian, 5th, and Aurora Avenues.

d. Travel times and distances by automobile to reach the site are minimum. Maximum travel time within the north Seattle area is estimated to be approximately twenty minutes.

5. Physical Characteristics

a. Approximately sixty-five acres are available in this tract of land.

b. The shape of the site is rectangular, with the ratio of length to width approximately 2:1. A desirable ratio is 3:2.

c. The topography of the site varies. The elevation ranges from 240 feet to 310 feet. A low area lies in the center with high ground on three sides.

d. Approaches to the site provide a potentially attractive view of the proposed campus.

e. Studies of soil characteristics by soil engineers show that conditions are favorable for multi-story construction on the high ground. Low areas will require drainage and fill. Construction in the low areas if comtemplated should be planned on structural fill.

6. Utilities and Other Public Services

   a. Public utilities including water, sewer, and electrical services are available.

   b. Rights-of-ways exist for city streets. Action must be taken at the proper time to request vacation of these streets. Meridian Avenue is a neighborhood collector; however, the city has indicated a willingness to lend support to the vacating of this street.

   c. Public services such as police and fire protection are available.

7. Costs

   Estimated assessed value of the property described herein is $385,510. The estimated cost for acquiring this land is $3,855,100, assuming the ratio of assessment to true value to be 1:10. An appraisal of all properties should be obtained before attempts to acquire the property are made.

A Site in Southern Seattle

Several alternative sites were considered as likely possibilities on which to locate a campus in South Seattle but were dropped after further investigation due to either size, shape, or potential problems of acquisition. The "Beacon Hill Site" (Site G) was also given consideration and after extensive study was considered unsuitable. A description of the Beacon Hill Site is included herein. After careful consideration a site composed of several land parcels and containing approximately

65 acres was selected for study in depth. A description and evaluation of this site follows:

1. Location
   a. The potential site is located in the southeast section of the Delridge community. It extends from approximately 15th Avenue S. W. on the west side to 12th Avenue extended on the east. The property extends from Morgan Street on the south to Brandon Street on the north.
   b. The potential site is located in the central western part of the southern sector of Seattle.
   c. The potential site lies between the residential areas of West Seattle and adjacent to Seattle's major industrial complex.
2. Availability
   This tract of land is owned by several property holders. A major portion of the land is owned by three parties. Less than a dozen houses are located on the land in this tract. Advice has been received that plans for extensive residential development are being considered for this property.
3. Environment
   a. Residential areas extend to the west and south of this tract of land.
   b. The land to the east consisting of the "Green Belt" is a steep bluff dropping approximately 250 feet to West Marginal Way.
   c. Homes in the residential area are middle class homes reasonably well maintained.
   d. No hazards to life or property exist at or near the site.
4. Accessibility
   a. Access to the site at this time is an apparent disadvantage. However, the proposed Sound Freeway which will link West Seattle with major north-south freeways and expressways is to be located immediately to the south adjacent to the proposed site.
   b. Streets currently leading to the site have been planned and constructed to handle small volumes of residential traffic are probably not adequate to take the volume of traffic generated by a large community college.

c. The property is currently accessible from the north via Spokane Street and Delridge Way. It is accessible from the south via 16th Avenue S. W. From the east, it is accessible via Highland Park Way, Holden Street, and 16th Avenue S. W. Driving time from the Community College Planning Center has been clocked to be twenty minutes.

d. Public transportation is not conveniently available to serve the potential site although advice has been received that City Transit is amenable to the development of routes to serve the area.

e. The Green Belt on the east side of the site serves as a natural barrier restricting convenient access to the site. Similarly, streets and arterials with limited capacity restrict auto traffic access.

5. Physical Characteristics

a. The size of the proposed tract of land is approximately sixty to sixty-five acres.

b. The shape of the site is approximately rectangular, with the ratio of length to width approximately 2.5:1. This is approximate since final site boundaries have not been determined.

c. The topography of the site is extremely irregular due to extensive excavation activities for sand and gravel. The land lies in a plateau at the top of a bluff. Elevations on the site range from 175 feet to 300 feet.

d. Soil characteristics are favorable to the construction of multistory buildings. An on-site inspection by soil engineers reveals no serious footing, foundation, or construction problems if a safe distance is maintained from the bluff on the east boundary of the site.

e. Surface and subsurface drainage conditions are satisfactory.

6. Utilities

a. Sewer and water services are available on 16th Avenue S. W. which is near the site.

b. Street rights-of-ways are plotted and will require positive action to vacate.

c. Public fire and police protection are available.

7. Costs
   a. The assessed value of the proposed tract of land is approximately $37,490.
   b. Assuming the ratio of assessed value to true value to be 1:12.5, the cost should approximate $470,000. Property appraisals should be obtained before attempts are made to acquire the property.

The Beacon Hill Site

A site owned by the District and designated as the "Beacon Hill Site" (Site G) was also considered as a possible alternative. A detailed discussion of this site is presented here.

General Description

The Beacon Hill Site as proposed is bounded on the north by a line approximately midway between Alaska and Snoqualmie Streets, on the south by Pearl Street, on the east by 12th Avenue South, and on the west by the Freeway.

The original tract contained 9.6 acres. According to the minutes of the Board of Directors, the purchase of the original site was authorized on May 8, 1953 for the relocation of the Maple Hill School. In July, 1962, the new Maple Hill site (Beacon Hill) was proposed for enlargement in order to accommodate an expanded Edison program. An additional 13.86 acres were authorized for purchase at that time. The acquisition of additional property by March, 1963 would have enlarged the site to 39 acres had the state not needed a strip of the original tract along the Freeway. The acquisition of land by the state along the Freeway reduced the School District's site to approximately 23.5 acres.[1] A later acquisition by the state reduced the site to 21.6 acres.

Adequacy of the Beacon Hill Site for Community College Purposes

1. General Location

   The proposed site is well located to serve as the South Campus for Seattle Community College, its location being near the center of the South Seattle area.

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[1] Letter dated March 11, 1964 from Frank M. Brock to Board of Directors.

2. Availability

The District owns approximately 21.6 acres. The remainder of the area proposed for expanding the site consists of streets, houses, and lots owned by numerous property holders. The additional land is available through the exercise of the Board's right of eminent domain.

3. Environment

   a. The site is surrounded on three sides by single family residences and on the fourth by the Freeway, which, when put into operation, will be heavily traveled and noisy.

   b. Below the Freeway to the west are the marshalling yards for freight trains which are extremely noisy.

   c. The general area is zoned RS 5000 which will permit the use of the land for community college purposes only after approval by the Board of Adjustments.

   d. The site is located in the flight pattern of Boeing Field. Both the noise and the hazards from low-flying aircraft make the use of this site seriously questionable. The Boeing test and experimental program is expected to increase substantially in the next few years. Air traffic to Boeing Field will also increase. Estimates available indicate that traffic from Boeing Aircraft alone will increase fourfold during the next three to four years. All new Boeing Aircraft models will be flight tested at Boeing Field. The traffic from test and fly away of new commercial models will also increase extensively. The air traffic at Boeing Field is a definite safety hazard and a constant source of noise from jet aircraft making an approach to land under varying amounts of power.

4. Accessibility

   a. The proximity of the Freeway and the interchange makes access to the site convenient.

   b. Streets leading to the site have been planned to serve residential areas and are not adequate to take the volume of traffic which would result from community college attendance.

   c. Public transportation is available on 15th Avenue, South.

   d. Travel times and distances to reach the site by automobile are minimum. Maximum travel time within the South Seattle area is approximately 20-30 minutes.

5. Physical Characteristics

   a. Approximately 21.6 acres, expandable to 34 or more, are in the proposed tract of land.

   b. The shape of the site is irregular, approaching that of a rectangle with a ratio of length to width of approximately 5:2. Its dimensions are such that expansion would be needed to make the south end of the site more usable for construction purposes.

   c. Ground elevations range from 138 feet at the south end of the proposed site to 345 feet at the north end. The difference in elevation from south to north is 207 feet. The topography is such that a considerable amount of grading and terracing will be necessary to prepare the site for full utilization.

   d. Studies of soil characteristics by soil engineers show that there is some slide movement near the Freeway and that peat or organic materials may be present to shallow depths at the low point in the swale west of Corson Avenue South. However, the peat can be excavated and backfilled with suitable soil and compacted. According to the Engineer's report, this should provide satisfactory conditions for the support of one and two-story buildings in the filled areas. The Engineer's report indicates that other areas will support multi-story buildings.

   e. Information obtained regarding height restrictions imposed by FAA regulations indicate that a part of the site projects into the air corridor of aircraft landing at Boeing Field.

   f. Height restrictions imposed by city zoning regulations limit buildings in the area to a maximum height of 50 feet and a lot coverage not to exceed 35 per cent. With such a small amount of acreage available, neither of the foregoing restrictions could be adhered to and be able to construct a college facility adequate for a student body of the size proposed for Seattle's Community College Campuses.

6. Utilities and Other Public Services

   a. Public utilities including water, sewer, gas, and electrical service are immediately available.

   b. Rights-of-ways exist for city streets. While streets may be vacated, action must be taken to request such vacations. The city has indicated the feasibility of closing all streets from 12th Avenue South to the Freeway including Corson Avenue.

c. Public services such as police and fire protection are available.

7. Costs

a. The District currently owns 21.6 acres of land which cost the District approximately $473,703.[2]

b. Land needed to expand the site to 36.42 acres is estimated to cost an additional $1,423,200.[3]

Summary and Recommendations

The disadvantages of the proposed site for community college purposes outweigh its advantages. The height and lot coverage restrictions; FAA restrictions on building heights; the noise generated by overhead aircraft, the Freeway and the freight yard; the general shape and topography of the site; and the small site are all serious limitations. Furthermore, expansion of the site would be extremely expensive.

The Consultants recommend that consideration be given to using this site for purposes other than a community college campus.

A Site for the Metro Area

Several sites have been proposed as alternatives for a third campus which has been recommended for location in the central part of Seattle. The alternative sites are as follows:

Site E The Broadway Site. This site currently is planned for use as a temporary location of the Seattle Community College. The site is located at Broadway and East Pine Street near the center of what has been designated the Metro area.

Site C Pier 91, U. S. Naval Supply Depot. This facility is expected to be declared surplus and made available for possible acquisition by governmental agencies. The site is located near 15th Avenue West. It is bordered on the north by West Wheeler Street and on the west by the Great Northern and Northern Pacific Railroad Yards.

Site F Yesler-Atlantic Area. This area is located south of the proposed Atlantic-Yesler urban renewal project. The approximate boundaries of the proposed site are Charles Street on the north, the proposed freeway on the south and west and 23rd Avenue on the east.

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[2] Memo from Mr. Easton to Mr. Brock dated January 21, 1965.
[3] *Ibid.*

Site D Seattle Center Area. This area lies north and east of the Seattle Center and it consists of eight city blocks. It is bounded on the south by Mercer, the west by 4th Avenue North, the north by Aloha, and the east by 6th Avenue.

Table 5 presents a summary of the evaluation of four sites which were seriously considered for the Metro area. While still others were proposed, the foregoing sites were considered to be the most likely to satisfy the criteria used for evaluation. Ft. Lawton, which may perhaps be declared surplus, is a large and beautiful tract of land which has been considered as a possible alternative. The numerous facilities available at Ft. Lawton could serve as temporary housing for the college program during the time the proposed campuses are being developed. It could then be developed after 1975 as a fourth permanent campus assuming that Seattle's future needs may require it. The School District is urged to give this serious consideration.

The analysis in Table 5 does not convey the entire picture regarding the relative adequacy of the four sites for the Central Seattle area campus. It is expected that the site for a campus in the central area of the city will be somewhat smaller in size than the other campus sites due to excessive costs of land and the problems of acquiring and developing it. A high rise facility with provision for limited parking will perhaps be essential to accomodate the enrollment potential anticipated at the central campus.

The Consultants suggest that the following alternatives are feasible. Either would provide a satisfactory solution to the site problem in the central area:

1. Alternative A.

   Expand the existing Broadway site to include: (a) the land in the same block with the Edison North Building, (b) the land in the west quarter of the block north of Edison North and across from Howell, (c) the land in the two blocks west of Edison North and South buildings. Existing vacant land and vacated

TABLE 5
EVALUATION SUMMARY OF ALTERNATIVE SITES
Summary Comments

Criterion	Site E	Site C	Site F	Site D
I. Location				
A. Proximity to population	Convenient	Convenient	Less Convenient	Convenient
B. Neighborhood	Apartments and Businesses	Naval Depot and RR Yards	Substandard Housing	Cultural Center, Businesses and Apartments
C. Businesses and industrial establishments	Convenient	Less Convenient	Less Convenient	Less Convenient
D. Equality of ed. opportunity	Satisfactory	Satisfactory	Doubtful	Satisfactory
II. Availability	Owned by Board (immediate)	Near Future	2 or More Years to Acquire	2 or More Years to Acquire
III. Environment				
A. Immediate surroundings	Apartments and Businesses (satisfactory)	RR and Navy Yard (poor)	Substandard Housing (fair)	Cultural Center, Businesses and Apartments (good)
B. Safety to site	Reasonably Safe	Reasonably Safe	Reasonably Safe	Fair
C. Travel Cond.	Satisfactory	Satisfactory	Satisfactory	Fair

(Continued on next page)

TABLE 5 (Cont.)
EVALUATION SUMMARY OF ALTERNATIVE SITES
Summary Comments

Criterion	Site E	Site C	Site F	Site D
III. Environment (Cont.)				
D. Egress and ingress at site	Congested	Congested	Satisfactory	Congested
E. Traffic control	Satisfactory	Satisfactory	Well Under Control	Satisfactory
IV. Accessibility				
A. Travel time	Good	Good	Good	Good
B. Natural and man-made barriers	Good	Good	Fair	Good
C. Access streets, expressways	Satisfactory	Satisfactory	Satisfactory	Satisfactory
D. Egress and ingress at site	Poor	Poor	Potential Satisfactory	Potential Fair
E. Public transportation	Good	Fair	Fair	Good
V. Physical Characteristics				
A. Size of site	2.47A (Expandable)	32.8A	20±(Est.)	11±(Est.)
B. Shape of site	Rectangular	Irregular Polygon	Irregular Polygon	Approximately Rectangular
C. Topography	Flat	Flat	Extreme Elevation Changes	Slight Elevation Changes
D. Site orientation	East-West	East-West	North-South	North-South

E. Drainage				
1. Surface	Good	Fair	Good	Good
2. Subsurface	Good	Fair	Good to fair	Good
F. Soil characteristics[1]	Good	Part fill, swampy area	Varies – Good to Poor	Good
G. Planning for exp.	Available but restricted	Restricted	Restricted	Restricted
H. Adaptability of site	Restricted	Restricted	Fair	Restricted
VI. Utilities and other public services				
A. Water	City	Navy (extend city)	City	City
B. Sewer	City	Navy (extend city)	City	City
C. Police protection	City	City	City	City
D. Fire protection	City	City	City	City
VII. Use of College by the community	Yes	Yes	Yes	Yes
VIII. Costs				
A. Purchase price[2]	District owned	Purchase at market price	Pur. at market price	Pur. at market price
B. Clearance	Remove Edison S. ($100,000 Est.)	Extensive removal of buildings	Extensive removal of buildings	Extensive removal of buildings
C. Development	No Unusual Expense	Need Piling due to swampy area	One area Partial fill	No unusual Expense

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[1] Sub-soil characteristics have not been analyzed by a soil engineer. Evaluation is judgmental and based on nature of construction in area and reported conditions.

[2] No estimate of property values has been made. However, it has been determined that the District will receive no concessions on Pier 91, nor will there be assistance through Urban Renewal.

buildings should be acquired as soon as it is feasible. Other buildings and land should be acquired as the need occurs.

The significant advantage of this site is primarily an economic one. The site is well located. It can be expanded as economically as land elsewhere in the central area can be acquired. The North Building is a usable facility which can be expanded and adapted as is required by the needs of the program. An expanded site can accomodate an additional high rise facility which will be adequate to serve the needs of the central Seattle area. The continued use of this site would help to promote the outward movement of Negro youth and adults and the inward movement of whites and provide opportunities for bringing together people of the diverse racial and National origin.

2. Alternative B.

Purchase land for a site in the vicinity of the Seattle center which would include approximately eight blocks as previously described. Public transportation serving this area is excellent, furthermore, the setting adjacent to Seattle's cultural center could prove of considerable significance to the program of the college. There could perhaps be an economic advantage to the District in locating adjacent to the Center. Assuming an agreement could be effected for using the Center's facilities, extensive parking facilities could be utilized by college students. The stadium, auditorium, and field house could perhaps be utilized by the college in the operation of its program. The acquisition of this site would provide opportunities for bringing together the many groups of diverse racial and National origin in a highly desirable cultural setting. The suggested acreage would accomodate a high rise facility of the size and capacity needed for the anticipated enrollment potential of the college.

Of the two alternatives, the Broadway site is considered to be the most desirable. It is conceded, however, that the Seattle Center Site is a most attractive alternative.

Summary

Sites have been reviewed and recommended for the three compuses that appear to be needed for Seattle's Community College program by 1975. A site has been recommended in the Northgate area to serve the north Seattle area and one has been recommended in west Seattle to serve the southern part of the city.

Four sites have been considered as possible alternatives for a Metro campus in the central area of Seattle. Both the existing Broadway site and a site immediately adjacent to and north and east of the Seattle Center are recommended as satisfactory alternatives for the Metro site. The Broadway site is considered to be the most desirable alternative.

V

REVIEW OF PROGRAM REQUIREMENTS FOR SEATTLE COMMUNITY COLLEGE

The purpose of this chapter is to provide an analysis of the scope and the organization of the comprehensive program required for the Seattle Community College. Recommendations will be made for the implementation of the program and guidelines offered for present and future planning.

The following programs, discussed in turn, constitute the specific parts of the total program:

1. university parallel
2. general
3. developmental
4. adult general education
5. occupational

There has been no attempt to arrange these in order of importance. All are significant parts of a comprehensive program.

University Parallel

In Washington State, as in the rest of the nation, the university parallel program requires the least explanation of any program in the community college. The university parallel is the reason that junior colleges began—"to provide near-to-home . . . the first two years of college education."[1]

Characteristics of a University Parallel Program

Generally the university parallel program is not identical with any one program at any university, although it may most nearly resemble a program at the university where most of the students transfer. The courses are designed to be "equivalent" to similar courses at a senior college or university. Acceptability to the state supported universities in Washington therefore serves as a major guideline in course development.

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[1] Quoted from *Washington Education Journal*, Washington Education Association, January, 1956, *Washington Community Colleges.*

Experience has shown that many courses, at one time not accepted for transfer, are presently included as acceptable. This is especially true when the course is an "elective" rather than a "major" requirement.

The community college must require at least as high a standard for university parallel courses as does the university, for it is essential that the community college student do at least as well as students of comparable ability who enter the university directly from high school. To maintain these high standards in an "open door" college, it is necessary that much attention be given to guidance, remedial and developmental programs (described later).

A university parallel course should not be limited to any part of the day or year. A comparable course in July or September and at 8:00 a.m. or 10:00 p.m. should receive the same credit.

In determining the desirability of adding a university parallel course and the emphasis to be given to various parts of the course the following criteria are helpful:

(a) Does the course fit into the role of the Seattle Community College?

(b) Does it relate to the sequence of training and experience available in the high school and the senior college and university?

(c) Will there be ease of articulation from one level to another?

(d) Does it meet the needs of the student and the community needs as well?

The community college students have a greater range of ability and aptitude than do those in the four year college. Therefore, in seeking a course model for university parallel programs the established community colleges are the most useful.

In this study four outstanding community college transfer programs were used as models.[2] A statistical analysis was made of the percentage of the total transfer program in each of these colleges that was included in each of the major subject fields. An average for each field was then computed. The averages were then adjusted in terms of factors unique to the Seattle area. Using these adjusted averages the following proposed academic curricula was then developed in terms of each 1,000 full time students in attendance in Seattle Community College.

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[2] The colleges included Everett in Washington, Daytona Beach, Pensacola and Indian River in Florida.

TABLE 6

Proposed Academic Curricula for the Community Colleges of Seattle Public Schools and the Percentage of the Student Credit Hours of each Subject Area is of the Total Academic Student Credit Hours Offered for Each 1,000 Full-time Equivalent Students, or 16,000 Student Credit Hours.

Subject Fields and Subjects	% of Total SCH	SCH for Subj. Area	Avg. Class Size	No. of Class Periods Needed
Fine Arts				
Art				
Drawing				
Design				
Art Appreciation				
	3.50	560.0	20	28.0
Music				
Choral, Band, Orchestra				
Music Appreciation				
1st yr. theory				
2nd yr. theory				
Class applied music				
Music literature				
1st yr. private lessons (Voice, piano, strings, brasses, reeds)				
2nd yr. private lessons				
	3.80	608.0	20	30.40
Speech-Drama				
Speech				
Public Speaking				
1st yr. Drama				
2nd yr. Drama				
	0.70	112.0	20	5.60
Total Fine Arts	8.00	1280.0		
English, Journalism and Languages				
English				
Fresh. Composition				

TABLE 6—Continued

Subject Fields and Subjects	% of Total SCH	SCH for Subj. Area	Avg. Class Size	No. of Class Periods Needed
English Literature				
American Literature				
	15.97	2555.2	30	85.17
Journalism	.14	22.4	20	1.12
French				
1st yr.				
2nd yr.				
3rd yr.				
Spanish				
1st yr.				
2nd yr.				
3rd yr.				
German				
1st yr.				
2nd yr.				
3rd yr.				
Russian				
1st yr.				
All Foreign Lang.	5.49	878.4	24	36.60
Total Eng., Journalism, Languages	21.60	3456.0		
Math & Physics				
Mathematics				
Int. Algebra				
Alg.-Trig.				
Math. Analysis				
College Alg.				
Trigonometry				
Analyt. Geom.				
Calculus				
Total Math	9.49	1518.4	30	50.61
Physics				
Introd. to Physics				
General Physics				Lec.

TABLE 6—Continued

Subject Fields and Subjects	% of Total SCH	SCH for Subj. Area	Avg. Class Size	No. of Class Periods Needed
Engin. Physics				Lab.
Lec. & Lab.	2.81	449.6	24	18.73
Total Math-Physics	12.30	1968.0		
Life Sciences				
Biology				
Prin. of Biology				
Lec. (5.43)				
Lab. (2.14)				
Microbiology (1 class)				
Gen. Botany				
Lec. (1.88)				
Lab. (1.73)				
Total Above:				
Lecture	7.31	1169.6	30	38.99
Laboratory	3.87	619.2	24	25.80
Chemistry				
Introd. Chem.				
College Chem.				
Gen. Chem.				
Qual. Chem.				
Organ. Chem.				
Chem. Lec.	2.74	438.4	30	14.61
Chem. Lab.	4.58	732.8	24	30.53
Earth Science (Included in above)				
Total of above Sciences	18.50	2960.0		
Social Sciences				
Introd. to Educ.				
General Psych.				
Career Planning				
Survey of Sociol.				
Social Problems				
Group Behavior				

TABLE 6—Continued

Subject Fields and Subjects	% of Total SCH	SCH for Subj. Area	Avg. Class Size	No. of Class Periods Needed
Philosophy				
Introd. to Phil.				
Introd. to Logic				
Anthropology				
History				
Hist. of Civilization				
U.S. History				
Hist. of N. W.				
Economics				
Economic Geog.				
Economic Principles				
Political Science				
Government (Local, State, Nat'l.)				
Government U.N.				
Int. Government				
Total Social Science	25.10	4016.0	30	133.87
Business Administration				
Principles of Accounting				
General Business				
Total Business Adm.	4.50	720.0	20	36.00
Physical Education	10.00	1600.0	40	40.00
	100.00	16,000.0 S Qr. Hr.		

Guidelines for Planning University-Parallel Courses at Seattle Community College

It is imperative that *each* campus have the university-parallel program and that the programs on *different* campuses be comparable in quality and standards. New teaching techniques involving the use of electronic devices such as T.V., programmed learning, and taped lectures can be of assistance in lowering costs and maintaining standards.

The Learning Resources Center has become one of the most important instructional developments in community colleges. This includes the library, the listening and viewing areas, the individual and group study areas—all so essential in a commuting college. The faculty should also be provided for in the Learning Resources Center, especially space for the production of new teaching materials.

General Education

The term "general education" has been used in a variety of ways. In using it for the curriculum or the course offerings of Seattle Community College, the term refers to three specific types of courses:

(1) Courses in the traditionally understood areas of communication, social science, physical science, natural science, mathematics, the humanities, and physical education, which are "equivalent" to similar basic courses offered in the university.

(2) Courses specifically designed for students who need a broadly integregated approach to subject area(s). (These may or may not be accepted as transfer courses.)

(3) Courses which are clearly non-credit and are designed to "upgrade" adults who need additional educational opportunity in these general areas.

While the facilities generally needed for these type courses will vary only a little from pre-professional and other courses, special attention must be given to the facilities needed for the developmental (remedial) programs and the reading laboratories in particular.

Developmental Education

A great many high school graduates are potential dropouts from any college level program, whether it be an academic, general education or a technical one. In fact, these are the students who change an open-door policy to a revolving door policy-one time around-one quarter or one semester-in and out.

The student personnel services described in this report provide a great service to these students and to the college by identifying the weaknesses and the gaps as well as discovering whether these were caused by poor health, poor motivation, poor reading or studying habits, poor family or environmental backgrounds or any combination of these.

However, merely identifying the weaknesses and the cause of the weakness is not nearly enough. This information not only must be communicated to the student but he must be helped in relating it to his expected life goals and his success in attaining these.

The third step is providing specific programs to aid in removing these weaknesses and deficiencies. An optional English clinic or "a bonehead Mathematics" course is not the solution — as many colleges and universities have discovered.

It is not too important whether this program be called conservation, rehabilitation, special education, or remedial education. The important thing is that it be thoroughly done in the three steps indicated above; namely, identifying the problem; helping the student relate his strengths and weaknesses to his objective; and finally, *requiring* the student to participate in courses designed to remove these weaknesses. Usually, these courses do not carry any credit, and the student taking them is not allowed to carry a full credit load. In fact, some community colleges insist on the student spending a full quarter or semester in these remedial programs before being allowed to enter into a credit course. Literally, hundreds of students would have been dropouts and many who actually were dropouts from Harvard, Yale, Michigan, Florida, Washington, U.C.L.A. and other four-year colleges and universities have been given a second chance in the community college through this three-step program of conservation. The value to the school, to the student, to the state and to the Nation from such a program can never be completely evaluated. Certainly no program is more fundamental to the purpose of the community college.

Developmental education has many implications for planning. These relate to such areas as administrative organization, curriculum development, student services, finances and facilities. The following factors appear pertinent:

a. At least one-third of the total enrollment will be involved. By far the most of these will be the "latent terminal" students that Burton Clark refers to in his *Open Door College.*[3]

b. Space will be needed for testing — not only for admission purposes but also on a continued basis.

c. Counselling offices will be increased due to continued referral and counselling requests.

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[3] Burton R. Clark, *The Open Door College* (McGraw-Hill Book Company, New York, 1960), p. 207.

d. Specific clinical programs such as to improve the reading level or comprehension will require specialized rooms with specialized equipment.

e. Courses in orientation to college, how to study, vocational opportunities and choices, will need to be scheduled, course outlines developed and revised.

f. The ratio of student to counselor will need to be considered in terms of the services needed.

g. The pervasiveness of the program will influence the administrative organization, curriculum development, book selection, and all aspects of college life.

Adult General Education

Adult General or Continuing Education is one of the most important functions of any community college and must be given a significant place in planning.

In a fast changing world where it is likely that every person will change occupations several times in his lifetime, where human relationships get more complex as the world gets smaller, and where there are vast career opportunities on the one hand, and greatly increased specialization on the other, survival requires continued education. The community college is the logical educational agency to provide this service.

The 1960 Handbook of Adult Education emphasized the five major functions of adult education as—expanding communication skills, developing flexibility, improving human relationships, facilitating participation, and expediting personal growth.[4] Most courses and programs in adult general education could appropriately be considered in one of these categories.

The differences between adult general education and transfer, general, or vocational education may not be so much related to the respective ages of the participants or the level of the courses, as they are to the purposes for which the courses are taken. Another difference is that the student in adult general education is not usually engaged in a formal full time educational program.

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[4] *Handbook of Adult Education in the United States*, M. S. Knowles, editor, Adult Education Association, Chicago, 1960, p. 624.

Characteristics of the Adult General Education Program in Seattle

The outstanding adult education program offered in Seattle for many years can best be described in the statement found in the Continuing Education brochure for 1965-66 as follows:

> . . . . education is a never-ending process and that providing the opportunities for continuing education is among the responsibilities of the public schools.
>
> Education should offer all citizens, regardless of age or previous experience, the opportunity to grow in knowledge and understanding, to acquire and to improve academic, vocational, technical, semi-professional and professional skills, to experience new dimensions in human relations, social adjustments, and to develop leadership potential.
>
> As citizens in a democracy, we must provide the educational opportunities necessary to maintain the democracy.
>
> The program is designed to serve in full time and part time day and evening programs, students of varying abilities and occupational objectives. It provides an educational service to the entire community.[5]

Guidelines for Planning for an Expanding Program in Adult Education

The Adult and Vocational Division is the basis from which the comprehensive community college developed in Seattle. Experience has shown that such a development has great merit. However, care must be taken lest a proper balance will not be maintained. In too many community colleges the transfer program has come to monopolize the finances, staff and the attention of faculty, and public alike.

The major divisions of adult education are General Education and Community Services. Examples of typical courses in General Education are: English, Basic Skills, Classes for Foreign Born, Foreign Language, Homemaking and Family-Life, Mathematics, Science, and Social Studies. Community service courses cover a very broad area including courses requested to improve skill, cultural, economic, or social needs.

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[5] *1965-1966 Courses for Fall, Winter and Spring, Continuing Education,* offered by the Seattle Public Schools, Adult and Vocational Division, p. 7.

Some of the courses may have the same names as transfer or vocational courses. The numbering system used must clearly identify Adult Education courses as neither (a) available for college credit, nor (b) training for a *specific occupation.*

Going to college has a great attraction to many adults. A new community college with a strong adult education program frequently finds that the demands for courses exceed all expectations. There have been occasions when the number of different adults enrolled in such a program approached 10 per cent of the total population of the service area.

Usually no special facilities are planned for the evening programs but community public school facilities are used wherever available. This is sound policy in general. However, it is essential that strong guidance programs for adults be provided especially for those who may have plans for a second career.

Facilities must be planned however for the day programs in adult general education, and especially for those programs which require specialized facilities and equipment. An estimated number of 1,000 FTE is shown for 1975 (Chapter II).

Occupational Education

The Program of Occupation-Centered Education

Occupation-centered Education falls into two major phases, each having special implications for facility planning. The first of these is the program of occupational preparatory curriculums. The second is the program of part-time evening occupational courses.

Occupational Preparatory Program

The curriculums in this program have the central purpose of preparing students for employment and continuing careers at levels requiring instruction which can be provided by the Community College prior to employment. Professions and other occupations which require four or more years of higher education are excluded.

The occupations included in this phase are at semi-professional, technical, skilled, and semi-skilled levels. Potentially, they represent the probable needs for new workers in such areas of employment as productive and constructive industry, repair and maintenance, health, public service, personal service, finance, transportation, homemaking, hospitality, agriculture, marine, communications, and selling. Such occupations are found in the census classifications of: Professional, Technical, and Kindred Workers; Managers, Officials and Proprietors; Clerical and Kindred Workers; Sales Workers; Craftsmen, Foremen and Kindred Workers; Operatives and Kindred Workers; and Service Workers.

Most students will pursue these curriculums on a full-time basis though some might attend on a reduced-time schedule. A majority of the curriculums require specialized shop or laboratory facilities with appropriately qualified faculty. Some curriculums are offered on a part-time cooperative basis with on-the-job learning experiences interspersed with or parallel to campus classroom instruction, while others prepare for entry into advanced levels of apprenticeship.

Program of Part-Time Evening Occupational Courses

This phase of Occupation-Centered Education primarily serves persons employed full time in the work force. Their attendance is usually part time during non-working hours. The courses are for the upgrading and updating of persons employed at the semi-professional, technical, and skilled levels. They also include related instruction for apprentices and the retraining of workers for new tasks related to their past employment experience and training.

This phase of the program commonly requires little or no specialized shop or laboratory facilities. Most frequently it can be provided in standard classrooms. Where specialized facilities are required, as for office occupations and some apprentices, the facilities for full-time preparatory curriculums can be used at hours when they are not needed for the preparation of new workers.

Considerations Basic to Program Planning

For reasons implied by the foregoing, the primary planning of the program is in terms of the requirements for the occupational preparatory curriculums, both in kind and in capacity. Basic considerations include: (1) the needed annual flow of new workers for each occupation of the work force to replace those who leave the occupations each year for various reasons; (2) the feasibility of and need for instruction which can be provided by the Community College as opposed to on-the-job and other employer-provided training; (3) the supply of new workers from sources other than the Seattle Community College; (4) other data which have been found with respect to surpluses and shortages of workers in various occupations; (5) the history of enrollments over recent years in similar curriculums offered by the Adult and Vocational Division of the Seattle School System; and (6) the projected potential total enrollment of students in this part of the Community College program. The derivation of data for these considerations and procedures used in planning the recommended program of occupational preparatory curriculums are shown schematically in Figure 10.

The program of part-time evening occupational courses is based upon somewhat different considerations. Fundamentally, these are: the needs of employed persons and apprentices for supplemental instruction which can be provided by the Community College; technological and other changes which suggest the need for updating or retraining of employed persons; and to some extent the availability of specialized facilities primarily provided for the occupational preparatory curriculums.

The needs of employed persons for supplemental instruction for updating or retraining and their willingness to attend classes are difficult, if not impossible, to determine or predict by any general survey procedure. For this reason, the program must be planned in rather broad categories and based upon the recent histories of enrollment in such courses. Enrollment experience, population trends, and the recommended program of occupational preparatory curriculums permit the projection of estimated enrollments in part-time evening occupational courses in future years.

The Occupational Preparatory Program

Occupations for which preparatory curriculums might be needed were determined by an analysis of reports on the composition of the work force in the service area of the Community College. For the health related occupations, basic data were gathered from the report: *Occupational Trends in Health Care Industries, King County, 1965-1970.*[6] In the absence of a recent complete manpower survey, basic data for other occupations were gathered from the 1960 census report for the Seattle Standard Metropolitan Statistical Area (SMSA).[7]

The occupations listed in Table 7 were extracted from these sources. Occupations are excluded from this listing which clearly have one or

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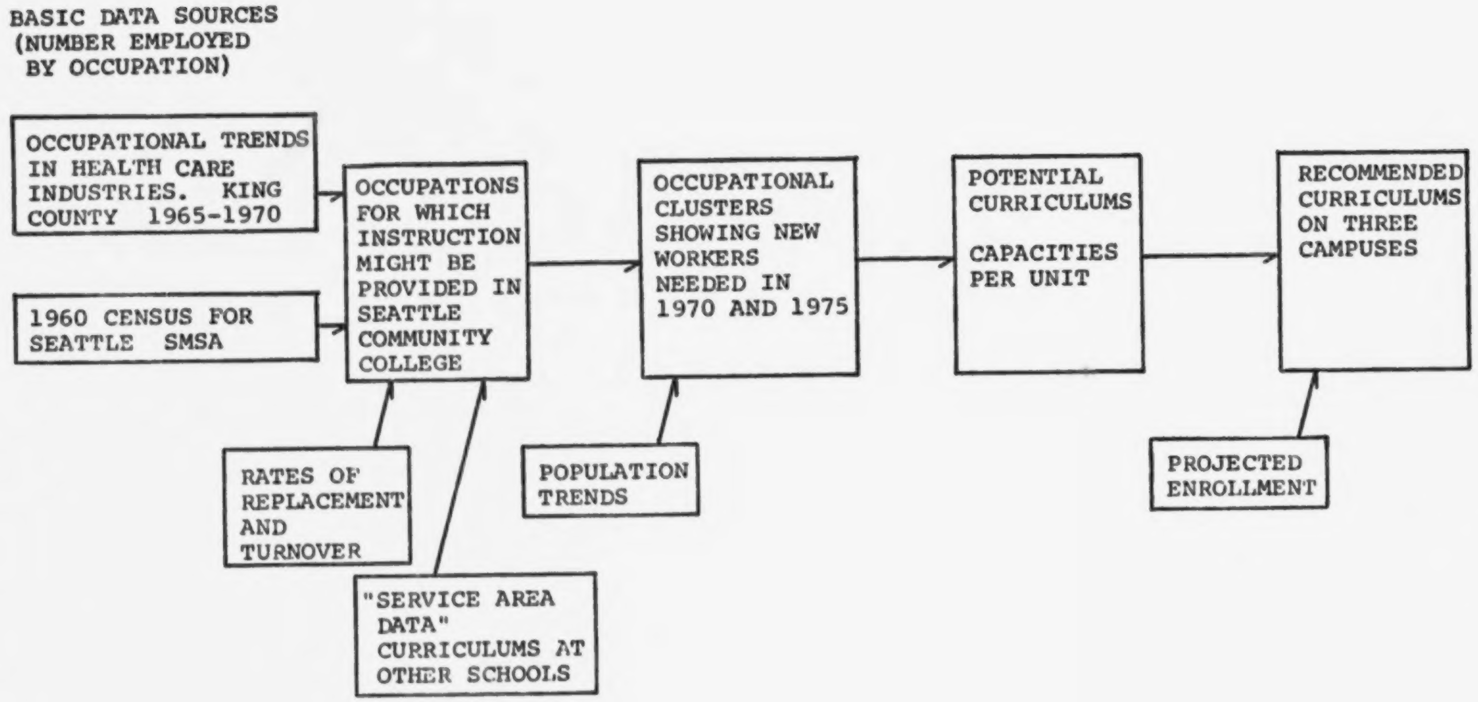
[6] State of Washington, *Occupational Trends in Health Care Industries, King County, 1965-1970,* Department of Employment Security and State Board for Vocational Education, Olympia, Washington, 1965.

[7] A summary of Census data is shown in Appendix A.

FIGURE 10

SCHEMATIC OF PROCEDURES USED
IN PLANNING RECOMMENDED PROGRAM
OF OCCUPATIONAL PREPARATORY CURRICULUMS


BASIC DATA SOURCES
(NUMBER EMPLOYED
BY OCCUPATION)
OCCUPATIONAL TRENDS IN HEALTH CARE INDUSTRIES. KING COUNTY 1965-1970
1960 CENSUS FOR SEATTLE SMSA
OCCUPATIONS FOR WHICH INSTRUCTION MIGHT BE PROVIDED IN SEATTLE COMMUNITY COLLEGE
RATES OF REPLACEMENT AND TURNOVER
"SERVICE AREA DATA" CURRICULUMS AT OTHER SCHOOLS
OCCUPATIONAL CLUSTERS SHOWING NEW WORKERS NEEDED IN 1970 AND 1975
POPULATION TRENDS
POTENTIAL CURRICULUMS
CAPACITIES PER UNIT
RECOMMENDED CURRICULUMS ON THREE CAMPUSES
PROJECTED ENROLLMENT

more of the following characteristics: (1) require four or more years of college education; (2) require on-the-job or other experiences which cannot be provided by the Community College; (3) require little or no pre-employment preparation at levels which can be served by the Community College; (4) had fewer than 300 employees in 1960.

Column 1 of Table 7 shows the number of persons employed in each listed occupation. Column 2 shows the estimated annual number of new workers needed in each occupation to replace those who retire, move into other occupations, die or for other reasons leave the occupation.

For the purpose of determining the number of new workers needed in each occupation, recent and reliable data for the Seattle Metropolitan Area are not available except for the health related occupations. Logically, employers are in the best position to provide such data in terms of their experience with worker turnover and the projected needs for new workers. Such information was available for the health related occupations and this has been used.

The number of replacements needed each year in a given occupation is somewhat proportionate to the number of persons employed in that occupation. Surveys of employers in other places show the average annual rate of replacement in largely male occupations at the levels under consideration to be 5 per cent. For largely female occupations, such as secretarial and clerical, this rate ranges from 7 per cent upward.

Two examples are cited to show the consistency of these average rates of replacement. The 1962 Manpower Survey for Pierce County, Washington reported the current employment in various occupations and the estimated demand for new workers during the following five years.[8] Computations based on these data show the average number of new workers needed in technical occupations over the five year period to be 4.8 per cent per year of the total number employed. The same rate was found for workers in crafts and service occupations. For the largely female occupations in the management and clerical classification, the rate was 7.1 per cent per year. A similar analysis of data reported in the 1963 Georgia Skill Survey shows the following

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[8] *Pierce County Manpower Survey*, Pierce County Manpower Committee in cooperation with Washington State Employment Security Department, Olympia, Washington 1962, pages 30, 31.

TABLE 7
OCCUPATIONS FOR WHICH INSTRUCTION MIGHT BE PROVIDED IN THE COMMUNITY COLLEGE

Occupation	No. Emp.	Avg. Annually Needed New Workers*	Adjustment Factor	Adjusted Average Annually Needed New Workers-1970
	(1)	(2)	(3)	(4)
PROFESSIONAL, TECHNICAL & KINDRED				
Accountants, and Auditors	4704	235	1.27	298
Nurses, Professional (except private duty)	3893	528	.54	287
Draftsmen	1980	99	1.27	125
Engineering & Phys. Scientists, Tech.	1682	84	.52	43
Electrical & Electronic Tech.	1668	83	.52	43
Artists & Art teachers	1098	55	1.27	70
Medical Technologists	901	466	1.33	620
Dental Assistants	861	440	.54	239
Editors & Reporters	624	31	.52	16
Radio Operators	416	21	.52	11
Photographers	412	21	.52	11
Surveyors	397	20	.52	10
MANAGERS, OFFICERS, & PROPRIETORS (Salaried and Self-employed combined)				
Retail Trade	9564	478	.52	247
Construction	3393	170	1.27	215
Wholesale Trade	3053	153	.52	79
Buyers and Dept. Heads, stores	2228	111	.52	57
Insurance and Real Estate	1731	87	1.27	110
Banking and Other Finance	1682	84	1.27	106
Purchasing Agents & Buyers	1520	76	1.27	96
Officers, pilots, pursers and eng. ships	1126	56	1.27	71
Mgrs. & supv., building	1056	53	1.27	67
Business Services	842	42	1.27	53
Auto Repair service & garage	445	22	.52	11
Credit Men	410	21	1.27	27

TABLE 7–Continued

Occupation	No. Emp.	Avg. Annually Needed New Workers*	Adjust-ment Factor	Adjusted Average Annually Needed New Workers-1970
CLERICAL AND KINDRED				
Secretaries	11,082	776	.52	401
Bookkeepers	7131	499	.52	258
Typists Stenographers	3129	219	.52	113
Cashiers	3042	213	1.27	270
Office Machine Oprs.	2788	195	.52	101
Receptionists	1278	89	.52	46
Attendants, Phys., Dent. office	774	54	.52	28
SALES WORKERS				
Salesmen & Sales Clerks Clerks	25,977	1559	1.27	1975
Real Estate Agents & Brokers	2770	139	1.27	176
Demonstrators	381	27	1.27	34
CRAFTSMEN FOREMEN & KINDRED				
Carpenters	7343	367	.52	190
Machinists	4601	230	.52	119
Millwrights	491	25	.52	13
Tool and Die Makers & Setters	1190	60	.52	31
Airplane Mech. & Repairmen	5203	260	1.27	329
Auto. Mech. & Repr.	4242	212	.52	110
Electricians	2745	137	1.27	174
Painters, Constr. & Mainten.	2228	111	1.27	141
Stationary Eng.	1536	77	1.27	98
Stationary Fireman	416	21	1.27	27
Plumbers & Pipe Fitters	1171	89	1.27	113
Compositors, Typesetters, Pressmen & Plate Printers	1441	72	1.27	91
Tinsmiths, Coppersmiths, & Sheet Metal Wkrs.	1437	72	1.27	91
Bakers	907	45	1.27	57

TABLE 7—Continued

Occupation	No. Emp.	Avg. Annually Needed New Workers*	Adjustment Factor	Adjusted Average Annually Needed New Workers-1970
Brickmasons, Stone Masons & Tile Setters	827	41	1.27	52
Cabinetmakers	618	31	.52	16
Radio & TV Mech. and Repairmen	585	29	1.27	38
Pattern & Model Makers, exc. paper	566	28	1.27	35
Upholsterers	498	25	1.27	32
Structural Metal Wkrs.	463	23	1.27	29
Air Cond. Mech. & Repairmen	423	21	1.27	27
Boat Builders & repairmen**	375	19	1.27	24
Tailors	244	12	1.27	15
OPERATIVES & KINDRED				
Laundry & Dry Cleaning Operators	2056	144	1.27	182
Welders & flame cutters	1837	92	.52	48
Meat Cutter, exc. slaughter & packing-house	1045	52	1.27	66
Sewers & Stitchers, mfg.	728	51	1.27	65
Dressmakers & seamstress exc. factory	624	44	1.27	56
Painters exc. construction & maintenance	693	35	1.27	44
Sailors & Deck hands	745	37	1.27	47
Oiler & Greasers exc. auto	450	23	1.27	29
Photographic process wkrs.	316	16	.52	8
SERVICE EXCEPT PRIVATE HOUSEHOLD				
Nurse's Aide	2602	1800	1.27	2281
Waiters	6166	308	.52	159
Cooks	4206	210	.52	109
Orderly (Hospital)	389	204	1.27	258
Protective Service Wkr.	3736	187	.52	97
Kitchen Worker	2430	170	.52	88
Practical Nurses	1649	165	.52	85
Hairdressers & Cosmetologists	1696	119	.52	62

TABLE 7–Continued

Occupation	No. Emp.	Avg. Annually Needed New Workers*	Adjust-ment Factor	Adjusted Average Annually Needed New Workers-1970
Housekeepers & Steward (inc. boarding & lodging)	1568	109	1.27	138
Counter & fountain Wkrs.	548	38	1.27	48
Janitors & sextons	4496	225	1.27	286
Policemen, Detectives, Sheriffs, & Bailiffs	1480	74	.52	38
Firemen - fire protection	1055	53	1.27	67
Barbers	1250	63	1.27	80

*For other than health regulated occupations, 5% of number employed workers except largely female workers—7%.

**Not in 1960 Census data. Information based upon staff investigation.

rates for the Atlanta Standard Metropolitan Statistical Area: for technical occupations 5.1 per cent; for skilled occupations 4.9 per cent; and, for largely female office occupations 9 per cent.[9]

On this evidence, therefore, the estimates of annual need for new workers in each occupation (other than health related occupations for which there are recent employer estimates) are based upon rates of 5 per cent for largely male occupations and 7 per cent for largely female occupations. Where, as for salesmen and sales clerks, the occupation is somewhat evenly divided between male and female workers an average rate of 6 per cent was employed in this computation. These estimates are shown in Column 2, Table 7.

Adjustments in Estimates of Needed New Workers

For health related occupations the data in Columns 1 and 2 of Table 7 are for King County in 1965. For other occupations these data are for the Seattle Standard Metropolitan Statistical Area (SMSA) in

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[9] *Georgia Skill Survey*, Georgia Department of Labor, Employment Security Agency, Atlanta, Georgia, 1963, pages 109 and 112.

1960. For the planning of occupational preparatory curriculums estimates were required to give the number of annually needed new workers in the Community College service area for 1975.

The service area of the Community College is restricted to the City of Seattle for occupations which are also served by preparatory curriculums offered by other educational institutions in the vicinity of Seattle as shown in Table 8. For occupations not served by other nearby educational institutions the service area is considered as the Seattle SMSA.

These considerations, in combination, necessitated adjustments to the estimates of annually needed new workers in each occupation. The adjustment factors used are shown in Column 3 of Table 7 and the adjusted estimates in Column 4.

The computations employed in determining the four adjustment factors, C1, C2, C3, and C4, are shown in Table 9. These factors were used with the occupations as they fell into one or the other of the four categories identified in this table.

Occupational Clusters

To facilitate planning of the program, the occupations listed in the census categories in Table 7 were regrouped in the occupational clusters shown in Table 10. Occupations from various census categories are included in each cluster on the basis of commonalities in the nature of the work or required instructional preparation.

Some of the job titles listed do not represent direct employment opportunities for graduates from community college preparatory curriculums. They are, however, career opportunities for graduates from preparatory curriculums after they have obtained additional education, on-the-job training or experience. In gross numbers, the occupations listed in each cluster represent the needs for new workers which might be served, directly or indirectly, by preparatory curriculums.

Each occupational cluster includes occupations for which preparatory curriculums might be needed. In most clusters, the occupations are on more than one level: semi-professional, technical, skilled or semi-skilled. Because of the commonalities in the nature of the instruction required for these occupations, some benefits can be achieved by clustering. For example, some of the same specialized facilities might be used for instruction in two or more curriculums. Likewise, some of the faculty might teach students enrolled in different curric-

TABLE 8

OCCUPATIONAL PREPARATORY CURRICULUMS AT OTHER INSTITUTIONS IN THE VICINITY OF SEATTLE

Curriculum	Community Colleges				
	Everett	Green River	Highline	Shore-line	Renton
Professional Nursing	X		X		
Forestry Technology	X				
Engineering Technology	X	X		X	X
Wood Technology	X				
Machine Technology	X				
Electronics Technology	X	X		X	X
Automotive Technology		X			
Instrumentation Tech.				X	
Aeronautics Technology					X
Dental Assisting	X				
Pre-communications		X			
Photography	X				
Civil Eng. Technology		X	X		X
Mid-Management	X	X	X	X	
Business Administration		X			
Secretarial		X	X	X	
Data Processing	X		X		
Carpentry & cabinet Making	X				
Machine Shop					X
Automotive Mechanics	X				
Food Service					X
Welding	X				X
Law Enforcement			X	X	
Practical Nursing	X				
Cosmetology	X				

TABLE 9
COMPUTATION OF ADJUSTMENT FACTORS

	Seattle Community College Service Area*	
	City of Seattle	Seattle SMSA
Health Related Occupations	$C_1 = \frac{S70}{K65} = .543$	$C_2 = \frac{M70}{K65} = 1.331$
Other Occupations	$C_3 = \frac{S70}{M60} = .517$	$C_4 = \frac{M70}{M60} = 1.267$

S=Seattle population estimate for 1970.
M=Population for Seattle SMSA, 1960 and estimated 1970.
K=Estimated population for King County, 1965.
*City of Seattle if occupation is served by preparatory curriculum at other educational institutions in Seattle SMSA. Otherwise, Seattle SMSA.

ulums within a cluster, either in a group or in separate courses. Hence, clustering permits more efficient use of faculty and specialized facilities.

Column (1) of Table 10 shows the estimated number of new workers needed annually in 1970, brought forward from Column (4), Table 7. Column (2) shows similar estimates for 1975. The 1975 estimates are based upon the 1970 estimates and adjusted in proportion to the projected population growth from 1970 to 1975. For occupations served by other educational institutions in the vicinity of Seattle, the projected population growth of Seattle (one per cent from 1970 to 1975) was used in this computation. For other occupations, the projected population growth of the Seattle Standard Metropolitan Statistical Area (12 per cent from 1970 to 1975) was used.

Potential Occupational Preparatory Curriculums

The potential curriculums shown in Table 11 were derived from the data on the estimated needs for new workers in occupations listed in Table 10. Column (1) indicates the levels of the curriculums and Column (2) the length of the curriculums in years. The levels are indicated by the letters A, D, and C: "A" representing the semi-professional and technical curriculums for which the Associate of Applied Science Degree would be awarded, "D" the post high school skilled level curriculums for which a diploma would be awarded, and "C" the ungraded and less than skilled level curriculums leading to a certificate of completion.

Column (5) shows the enrollment capacity for each curriculum on a single unit basis. A single unit consists of one specialized shop or laboratory and represents the minimum facility which might be provided for a given curriculum. For the purpose of computing these enrollment capacities special attention was given to: (1) the nature of the curriculum in terms of the proportionate amount of laboratory or shop experience; and (2) the length of the curriculum; and (3) the proportionate number of students who could be expected to remain for the second year of a two-year curriculum.

TABLE 10
OCCUPATIONAL CLUSTERS

	Estimate Annual Need for New Wkrs.–1970	Estimate Annual Need for New Wkrs.–1975
Cluster I: **Health Related Occupations**		
Professional Nursing (except Private duty)	287	290
Practical Nursing (except Private duty)	85	86
Medical Technologists	620	694
Dental Assistants	239	241
Hospital Orderlies	258	289
Nurses' Aides	2,281	2,555
Cluster II: **Hospitality (Food Service)**		
Bakers	57	64
Cooks	109	110
Meat Cutters	66	74
Kitchen Workers	88	89
Waiters	159	161
Counter and Fountain Workers	48	54
Demonstrators	34	38
Housekeepers & stewards (including boarding & lodging)	138	155
Cluster III: **Accounting, Bookkeeping & Finance**		
Accountants and Auditors	298	334
Banking and other finance	106	119
Credit men	27	30
Bookkeepers	258	261
Cluster IV: **Insurance & Real Estate**		
Real Estate Agents & Brokers	176	197

(Continued on next page)

TABLE 10 (CONTINUED)
OCCUPATIONAL CLUSTERS

	Estimate Annual Need for New Wkrs.–1970	Estimate Annual Need for New Wkrs.–1975
Managers, Officers & Proprietors—Insurance and Real Estate	110	123
Cluster V: **Office Occupations**		
Managers, Officers & Proprietors—Business Services	53	59
Secretaries	401	405
Typists	136	137
Stenographers	113	114
Office Machine Operators	101	102
Receptionists	46	46
Attendants – Phys., & Dent. Ofc.	28	28
Cluster VI: **Sales & Merchandising**		
Managers, Officers & Proprietors—Retail Trade	247	249
Managers, Officers & Proprietors—Wholesale Trade	79	80
Buyers & Store Dept. Heads	57	58
Purchasing Agents & Buyers	96	108
Cashiers	270	302
Salesmen and Sales Clerks	1975	2212
Cluster VII: **Graphic Arts & Mass Media**		
Artists and Art Teachers	70	78
Photographers	11	11
Compositors, Typesetters, Pressmen & Plate Printers	91	102
Editors and Reporters	16	16
Photographic Process Workers	8	8
Cluster VIII: **Personal Services**		
Hairdressers & Cosmetologists	62	63
Barbers	80	90
Cluster IX: **Clothing Construction and Care**		
Laundry & Dry Cleaning Oprs.	182	204
Sewers and Stitchers, (Mfg.)	65	73
Dressmakers & Seamstresses (not factory)	56	63
Tailors	15	17

(Continued on next page)

TABLE 10 (CONTINUED)
OCCUPATIONAL CLUSTERS

	Estimate Annual Need for New Wkrs.–1970	Estimate Annual Need for New Wkrs.–1975
Cluster X: **Public Service Workers**		
Firemen – Fire Protection	67	75
Policemen, Detectives, Sheriffs and Bailiffs	38	38
Protective Service Workers	97	98
Cluster XI: **Other Semi-Professional Occupations**		
Draftsmen	125	140
Technicians – Engineering and Physical Science	43	43
Surveyors	10	10
Cluster XII: **Electrical & Electronic**		
Radio Operators	11	11
Technicians – Electrical and Electronic	43	43
Electricians	174	195
Radio & TV Mechanics & Repairmen	38	43
Cluster XIII: **Aircraft Maintenance**		
Airplane Mechanics & Repairmen (Airframe & power plant)	329	368
Cluster XIV: **Metal Machining**		
Machinists	119	120
Millwrights	13	13
Tool and Die Makers & Setters	31	31
Cluster XV: **Woodworking (including furniture)**		
Carpenters	190	192
Cluster XV: **Woodworking (Inc. furniture – Cont.)**		
Cabinetmakers	16	16
Pattern & Model Makers	35	39
Upholsterers	32	36
Boat Builders & Repairmen	24	27
Cluster XVI: **Building Construction**		
Plumbers & Pipe Fitters	113	127
Tinsmiths, Coppersmiths & Sheet Metal Workers	91	102
Brickmasons, Stone Masons & Tile Setters	52	58

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TABLE 10 (CONTINUED)
OCCUPATIONAL CLUSTERS

	Estimate Annual Need for New Wkrs.–1970	Estimate Annual Need for New Wkrs.–1975
Structural Metal Workers	29	32
Welders and Flame Cutters	48	48
Managers & Proprietors of Bldg. construction	215	241
Cluster XVII: **Painting**		
Painters – Const. & Maintenance	141	158
Painters – Other	44	49
Cluster XVIII: **Building Operation**		
Managers & Supervisors of buildings	67	75
Air Conditioning Mechanics & Repairmen	27	30
Stationary Engineers	98	110
Stationary Firemen	27	30
Oilers and Greasers	29	32
Janitors & Sextons	286	320
Cluster XIX: **Marine**		
Officers, Pilots, Pursers & Engineers: Ships	71	80
Sailors and deck hands	47	53
Cluster XX: **Automotive**		
Managers & Proprietors – Auto Repair & Garage	11	11
Auto Mechanics & Repairmen	110	111
Total All Occupations and all Clusters		13,744

For technical and semi-professional curriculums specialized laboratory experiences were estimated to be required for an average of one-third of a given student's instructional time. Thus a given laboratory with a capacity of 20 students could serve three groups of students on an average weekly basis or a total of 60 students.

For skilled occupations and other diploma curriculums the ratio used for shop or laboratory experience was one-half. A single shop thus could serve two groups of 25 or a total of 50 students in any given week. For less-than-skilled occupations as represented by most certificate curriculums, the area for practical instruction would be used by only one group of students during the week. The percentage of shop or laboratory experience in each curriculum which was used for these computations are shown in Column (3). The maximum number of students who could receive shop or laboratory experience at one time is shown in Column (4).

For two-year curriculums the percentage of retention of students into the second year was based upon the recent experience of similar educational institutions in the State of Washington. It was reported by the Washington State Department of Public Instruction that this retention in post high school occupational preparatory curriculums is 50 per cent for males and 65 per cent for females. These rates were used in computing the breakdowns of total enrollments shown in Column (5). Where the enrollments would be approximately equal of both sexes, the average rate of 58 per cent was used.

Column (6) shows the number of new workers which a single unit for each curriculum would produce each year. For one-year curriculums, this figure is the same as the enrollment capacity of the shop or laboratory. For two-year curriculums, this figure is the same as the enrollment capacity for second year students.

TABLE 11

POTENTIAL OCCUPATIONAL PREPARATORY CURRICULUMS

Curriculums by Occupational Clusters	Level	Length in years	Laboratory or Shop		Enr. Capacity Per Single Unit			New Wkrs. Each Year Per Unit
			Percent of Time in Ttl. Curriculum	Capacity at any one Time	1st Yr.	2nd Yr.	Ttl.	
Cluster I								
(Health Related Occupations)								
Professional Nursing	A	2	33	20	36	24	60	24
Medical Technology	A	2	33	20	36	24	60	24
Practical Nursing	D	2	33	20	36	24	60	24
Dental Assisting	D	2	50	20	24	16	40	16
Nurses Aide	C	1	90	25	25	2	25	25
Hospital Orderly	C	1	90	25	25	–	25	25
Cluster II								
(Hospitality)								
Hotel-Motel Management	A	2	33	25	50	25	75	25
Restaurant Management	A	2	33	25	50	25	75	25
Baking	D	2	50	20	27	13	40	13
Restaurant Cooking	D	2	50	20	27	13	40	13
Meat Cutting	C	1	90	25	25	—	25	25
Food Service	C	1	90	25	25	—	25	25
Commercial Food Preparation	C	1	90	25	25	—	25	25
Hotel-Motel Housekeeping	C	1	90	25	25	—	25	25

TABLE 11 (CONTINUED)
POTENTIAL OCCUPATIONAL PREPARATORY CURRICULUMS

			Laboratory or Shop		Enr. Capacity Per Single Unit			
Curriculums by Occupational Clusters	Level	Length in years	Percent of Time in Ttl. Curriculum	Capacity at any one Time	1st Yr.	2nd Yr.	Ttl.	New Wkrs. Each Year Per Unit
	(1)	(2)	(3)	(4)		(5)		(6)
Cluster III								
(Accounting, Bookkeeping, Finance)								
Accounting & Finance	A	2	33	30	60	30	90	30
Fiscal Management	A	2	33	30	60	30	90	30
Bookkeeping	A	2	33	30	57	33	90	33
Data Processing	A	2	50	20	24	16	40	16
Cluster IV								
(Insurance and Real Estate)								
Insurance Risk Management	A	2	33	25	47	28	75	28
Real Estate (Cooperative part-time)	A	2	33	25	47	28	75	28
Cluster V								
(Office Occupations)								
Secretarial Science	A	2	33	25	45	30	75	30
Office Management	A	2	33	25	47	28	75	28
Stenography	D	2	50	30	36	24	60	24
Typing and General Clerical	C	1	90	30	30	—	30	30
Office Machine Operation	C	1	90	25	25	—	25	25

Cluster VI								
(Sales and Merchandising)								
Retail Management	A	2	33	25	50	25	75	25
Marketing & Advertising	A	2	33	25	47	28	75	28
Retail Selling (cooperative part-time)	D	2	33	25	47	28	75	28
Cluster VII								
(Graphic Arts & Mass Media)								
Photography	A	2	33	25	47	28	75	28
Journalism	A	2	33	25	47	28	75	28
Commercial Art	D	2	50	25	31	19	50	19
Printing	D	2	50	25	33	17	50	17
Photographic Processing	C	1	90	30	30	—	30	30
Cluster VIII								
(Personal Services)								
Hairdressing and Cosmetology	D	2	50	25	30	20	50	20
Cluster IX								
(Clothing Construction & Care)								
Cleaning, Pressing, & Spotting	D	2	50	25	31	19	50	19
Custom Clothing Construction	D	2	50	25	30	20	50	20
Tailoring	D	2	50	25	33	17	50	17
Power Machine Sewing	C	1	90	25	25	—	25	25

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TABLE 11 (CONTINUED)

POTENTIAL OCCUPATIONAL PREPARATORY CURRICULUMS

Curriculums by Occupational Clusters	Level	Length in years	Laboratory or Shop		Enr. Capacity Per Single Unit			New Wkrs. Each Year Per Unit
			Percent of Time in Ttl. Curriculum	Capacity at any one Time	1st Yr.	2nd Yr.	Ttl.	
	(1)	(2)	(3)	(4)		(5)		(6)
Cluster X								
(Protective Service)								
Crime Detection Aide	A	2	33	25	50	25	75	25
Law Enforcement	A	2	33	25	50	25	75	25
Fire Protection	D	2	50	25	33	17	50	17
Cluster XI								
(Engineering Related Occupations)								
Engineering Technology	A	2	33	25	50	25	75	25
Mechanical Drafting & Design	A	2	50	30	40	20	60	20
Civil Technology	A	2	33	25	50	25	75	25
Cluster XII								
(Electrical & Electronic)								
Electrical Technology	A	2	33	25	50	25	75	25
Electronic Technology	A	2	33	25	50	25	75	25
Electrical Construction	D	2	50	25	33	17	50	17
Radio & TV Servicing	D	2	50	25	33	17	50	17

Cluster XIII (Aircraft Maintenance)								
Power Plant Mechanics	D	2	50	25	33	17	50	17
Airframe Mechanics	D	2	50	25	33	17	50	17
Instrument Mechanics	D	2	50	25	33	17	50	17
Cluster XIV (Metal Machining)								
Metals Technology	A	2	33	25	50	25	75	25
Machine Shop Practice	D	2	50	25	33	17	50	17
Machine Tool Operation	C	1	90	25	25	—	25	25
Cluster XV (Woodworking, Inc. Furniture)								
Carpentry	D	2	50	25	33	17	50	17
Cabinetmaking & Millwork	D	2	50	25	33	17	50	17
Patternmaking	D	2	50	25	33	17	50	17
Boat Building & Repair	D	2	50	25	33	17	50	17
Upholstery	C	1	90	25	25	—	25	25
Cluster XVI (Building Construction)								
Construction Supv. & Estimating	A	2	33	25	50	25	75	25
Plumbing & Pipe Fitting	D	2	50	25	33	17	50	17
Sheet Metal Working	D	2	50	25	33	17	50	17
Metalsmithing	D	2	50	25	33	17	50	17
Masonry	D	2	50	25	33	17	50	17
Structural Metalworking	D	2	50	25	33	17	50	17
Welding	D	2	50	25	33	17	50	17

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TABLE 11 (CONTINUED)
POTENTIAL OCCUPATIONAL PREPARATORY CURRICULUMS

Curriculums by Occupational Clusters	Level	Length in years	Laboratory or Shop		Enr. Capacity Per Single Unit			New Wkrs. Each Year Per Unit
			Percent of Time in Ttl. Curriculum	Capacity at any one Time	1st Yr.	2nd Yr.	Ttl.	
	(1)	(2)	(3)	(4)		(5)		(6)
Cluster XVII (Painting)								
Exterior Painting	D	2	50	25	33	17	50	17
Interior Painting & Decorating	C	1	90	25	25	—	25	25
Cluster XVIII (Building Operation)								
Building Supervision	A	2	33	25	50	25	75	25
Air Cond. & Refrigeration Tech.	A	2	33	25	50	25	75	25
Air Cond. & Refrigeration Mech.	D	2	50	25	33	17	50	17
Stationary Engine Mechanics	D	2	50	25	33	17	50	17
Building Maintenance	C	1	90	25	25	—	25	25
Cluster XIX (Marine)								
Marine Biology	A	2	33	25	50	25	75	25
Marine Navigation	A	2	33	25	50	25	75	25
Marine Operations	D	2	50	25	33	17	50	17
Cluster XX (Automotive Repair & Service)								
Automotive Technology	A	2	33	25	50	25	75	25
Automotive Repair	D	2	50	25	33	17	50	17
Automotive Servicing	C	1	90	25	25	—	25	25

Recommended Occupational Preparatory Program

The recommended program of occupational preparatory curriculums for the three proposed campuses is shown in Table 12. The curriculums are listed in the same occupational clusters used in Tables 10 and 11. Some curriculums listed as potential in Table 11 are not recommended and therefore do not appear in Table 12.

The curriculums recommended and the total number of units recommended for each curriculum were determined on the basis of two considerations. The first of these was the estimated number of new workers needed in 1975 in occupations served by each curriculum. In general, where the number of new workers needed each year was relatively small, a preparatory curriculum was not recommended.

Exceptions to this were made to include curriculums currently offered by the Adult and Vocational Division of the Seattle School District where the number of new workers which a single unit of such curriculums could produce did not exceed the annual need for new workers in that occupation. Recognition was also given to the possibilities of using the shop or laboratory facilities required for such borderline curriculums for the instruction of students in other curriculums in the same occupational cluster. In this way, benefits are gained from using faculty and facilities which are already a part of the school system. Furthermore, relationships with the community for these curriculums are already established and advantages are recognized in their continuance.

TABLE 12
RECOMMENDED PROGRAM OF OCCUPATIONAL PREPARATORY CURRICULUMS

		Totals — 3 Campuses			No. Units, Priority & Enrollments — by Campus								
					North			Metro			South		
Curriculums by Clusters	Level	No. Units	Enroll-ment	Annual New Workers	U	P	Enr.	U	P	Enr.	U	P	Enr.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Cluster I: **Health Related**													
Professional Nursing	A	4	240	96	2	B	120	2	C	120			
Medical Technology	A	4	240	96	2	B	120	2	C	120			
Practical Nursing	D	2	100	40	1	B	50	1	A	50			
Dental Assisting	D	2	80	32	1	B	40	1	A	40			
Nurses Aides	C	6	150	150	3	B	75	3	C	75			
Hospital Orderly	C	2	50	50				2	C	50			
Cluster II: **Hospitality**													
Hotel-Motel Management	A	1	75	25	1	B	75						
Restaurant Management	A	1	75	25				1	A	75			
Baking	D	2	80	26							2	B	80
Restaurant Cooking	D	3	120	39				2	A	80	1	B	40
Meat Cutting	C	1	25	25				1	C	25			
Food Service	C	3	75	75				2	A	50	1	B	25
Commercial Food Preparation	C	2	50	50				1	A	25	1	B	25
Hotel-Motel Housekeeping	C	1	25	25	1	B	25						

Cluster III: **Accounting, Bookkeeping & Finance**												
Accounting and Finance	A	2	180	60	1	B	90				1	B	90
Bookkeeping	A	3	270	99	1	B	90	1	A	90	1	B	90
Data Processing	A	3	120	48	1	B	40	1	A	40	1	B	40
Cluster IV: **Insurance & Real Estate**													
Insurance Risk Management	A	2	150	56	1	B	75				1	B	75
Real Estate	A	2	150	56	1	B	75				1	B	75
Cluster V: **Office Occupations**													
Secretarial Science	A	6	450	180	2	B	150	1	A	75	2	B	150
Office Management	A	1	75	28	1	B	75						
Stenography	D	4	240	96	1	B	60	2	A	120	1	B	60
Typing & General Clerical	C	4	120	120	1	B	30	2	A	60	1	B	30
Office Machines Operation	C	2	50	50				1	A	25	1	B	25
Cluster VI: **Sales and Merchandising**													
Retail Management	A	2	150	50				1	C	75	1	B	75
Retail Selling	D	3	225	84	1	B	75	1	A	75	1	B	75
Cluster VII: **Graphic Arts and Mass Media**													
Commercial Art	D	1	50	19							1	B	50
Printing	D	3	150	51							3	B	150
Cluster VIII: **Personal Service**													
Hairdressing & Cosmetology	D	2	100	40	1	B	50	1	A	50			

(Continued on next page)

TABLE 12 (CONTINUED)
RECOMMENDED PROGRAM OF OCCUPATIONAL PREPARATORY CURRICULUMS

		Totals – 3 Campuses			No. Units, Priority & Enrollments – by Campus								
					North			Metro			South		
Curriculums by Clusters	Level	No. Units	Enrollment	Annual New Workers	U	P	Enr.	U	P	Enr.	U	P	Enr.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Cluster IX: **Clothing Construction and Care**													
Cleaning, Pressing, and Spotting	D	1	50	19				1	A	50			
Custom Clothing Construction	D	2	100	40				1	A	50	1	B	50
Tailoring	D	1	50	17				1	A	50			
Power Machine Sewing	C	2	50	50				2	C	50			
Cluster X: **Protective Service**													
Law Enforcement	A	1	75	25	1	B	75						
Cluster XI: **Engineering Related Occupations**													
Engineering Technology	A	1	75	25							1	B	75
Mechanical Drafting & Design	A	3	180	60				2	A	120	1	B	60
Civil Technology	A	1	75	25							1	B	75

Cluster XII: Electrical and Electronics									
Electrical and Electronics Technology	A	1	75	25				1	B	75
Electrical Construction	D	2	100	34	1	A	50	1	B	50
Radio & TV Servicing	D	2	100	34	1	A	50	1	B	50
Cluster XIII: Aircraft Maintenance										
Power Plant Mechanics	D	2	100	34				2	B	100
Airframe Mechanics	D	2	100	34				2	B	100
Instrument Mechanics	D	1	50	17				1	B	50
Cluster XIV: Metal Machining										
Metals Technology	A	1	75	25	1	C	75			
Machine Shop Practice	D	3	150	51	2	A	100	1	B	50
Cluster XV: Woodworking										
Carpentry	D	3	150	51				3	B	150
Cabinet Making & Millwork	D	1	50	17				1	B	50
Boat Building & Repair	D	1	50	17				1	B	50
Cluster XVI: Building Construction										
Const. Supv. & Estimating	A	1	75	25				1	B	75
Plumbing & Pipe Fitting	D	1	50	17				1	B	50
Sheet Metal Working	D	1	50	17	1	A	50			
Welding & Metal Fabrication	D	2	100	34	2	A	100			

(Continued on next page)

TABLE 12 (CONTINUED)
RECOMMENDED PROGRAM OF OCCUPATIONAL PREPARATORY CURRICULUMS

		Totals – 3 Campuses			No. Units, Priority & Enrollments – by Campus								
					North			Metro			South		
Curriculums by Clusters	Level	No. Units	Enroll-ment	Annual New	U	P	Enr.	U	P	Enr.	U	P	Enr.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Cluster XVII: Painting													
None													
Cluster XVIII: Building Operation													
Air Conditioning and Refrigeration Mechanics	D	1	50	17				1	C	50			
Stationary Engine Mechanics	D	2	100	34				2	C	100			
Cluster XIX: Marine													
None													
Cluster XX: Automotive													
Automotive Technology	A	1	75	25	1	B	75						
Automotive Repair	D	3	150	51	3	B	150						
Automotive Servicing	C	1	25	25	1	B	25						
Summary Totals													
Degree Curriculums	A	41	2880	1054	15		1060	13		865	13		955
Diploma Curriculums	D	53	2695	692	8		425	21		1065	24		1205
Certificate Curriculums	C	24	620	620	6		155	14		360	4		105
All Curriculums		118	6195	2366	29		1640	48		2290	41		2265

The second consideration was the maximum total enrollment in occupational preparatory curriculums which might be expected on each of the three campuses. The estimated total number of new workers needed in the identified occupations of the work force greatly exceeds the number of persons who can be expected to enroll for and complete occupational preparatory curriculums. The projected enrollment in the occupational preparatory curriculums which are recommended is approximately 40 per cent of the projected total day enrollment in the community college for 1975.

The letters in the first column of Table 12 identify the levels of the curriculums. The letter "A" identifies the semi-professional or technical curriculums leading to the Associate of Applied Science Degree. "D" identifies post high school skilled level curriculums for which a diploma is awarded, and "C" identifies the ungraded and less than skilled level curriculums leading to a certificate of completion.

The second column shows the total number of units recommended for each curriculum, and the third column, the total enrollment. The fourth column shows the annual number of new workers which will be produced by these enrollments with this number of units. In most cases, this number is less than half of the number of new workers needed in the occupations served by each curriculum. Presumably, the balance of new workers needed each year would come from other sources such as in-migration, preparation by other educational institutions, or preparation and upgrading by employers.

The remaining columns show the number of units, priorities and enrollments recommended for each curriculum on each of the three campuses. Columns 5, 8, and 11 indicate the number of units, and Columns 6, 9, and 12 indicate the priorities. Enrollments on each campus, Columns 7, 10, and 13 correspond to the number of units recommended and the totals of these for the three campuses are those shown in Columns 2 and 3.

The priorities for the North and South campuses are indicated as "B" which implies they should be operational on these campuses upon completion of construction. Priority "A" on the Metro campus indicates the curriculum is currently operational. Priority "C" indicates the curriculum should be in operation when the Metro campus plant is completed. Some of the priority "B" curriculums are currently offered in other facilities. These would be moved to the indicated campuses when their construction is completed.

Summary of Recommendations

These recommendations provide for 57 different occupational preparatory curriculums in 18 of the 20 occupational clusters. As shown in the summary totals for Table 12, a total of 118 curriculum units are required. These include 41 curriculum units leading to the Associate of Applied Science Degree, 53 post high school curriculum units leading to a Diploma and 24 curriculum units leading to a Certificate of Completion.

The total enrollment capacity in the recommended curriculums is 6,195 students; 40 per cent of the projected total day student enrollment in the community college. The units of occupational preparatory curriculums recommended for the North Campus could enroll 1,640 students, for the Metro Campus, 2,290 students, and for the South Campus 2,265 students.

The relative enrollment capacities of the recommended degree, diploma and certificate curriculums varies from campus to campus. In degree curriculums, the North Campus has both the highest capacity (1,054 students) and the highest proportion (52 per cent) of the total occupational program.

The programs recommended for the Metro and South campuses have about the same total capacity with more capacity in diploma curriculums for the South Campus and more capacity in certificate curriculums for the Metro Campus. This reflects the proximity of these campuses to the more industrial sections of Seattle as well as the continuance of curriculums already established at the Metro Campus location.

Recommended Program of Part-Time Occupational Courses

This program of part-time evening occupational courses is the second major phase of occupation-centered education referred to previously. It primarily serves persons employed full time in the work force who usually attend classes during nonworking hours. The courses to be included in the program have the purpose of upgrading and updating workers employed at the semi-professional, technical, and skilled levels. They also provide related instruction for apprentices and the retraining of workers for new tasks related to their past employment experience and training.

This program serves the needs of employed persons for instruction which can be provided by the community college. It reflects technological and other changes which in turn suggest needs for updating or retraining of employed persons: most especially in the occupations for which preparatory curriculums are also offered by the community college.

As indicated previously, the specific courses in this phase of the program can not be readily predicted and they are likely to change from time to time. For the most part, the nature and number of courses to be offered will be recommended by advisory committees or based upon requests from those who wish to enroll. For the purposes of this report, recommendations are limited to gross enrollment projections for such courses in 1975.

These projections are primarily based upon the past experience of the Adult and Vocational Division of the Seattle School District with enrollments in such courses. This past experience is reflected in enrollment trends over recent years and the relationships between enrollments in the part-time evening courses and enrollments in the day preparatory curriculums for industrial and business occupations. It is assumed that the past trends will continue, as will the ratio relationships of evening course enrollments to enrollments in day preparatory curriculums.

To obtain the projected gross enrollments in the part-time evening courses, past trends and the day-evening enrollment ratio were applied to the projected 1975 enrollments in degree and diploma occupational preparatory curriculums. From these computations were derived the projected total number of enrollments and the number of full-time equivalent students (FTE).

Enrollment data for preparatory curriculums and evening courses were extracted from the records of the Adult and Vocational Division of the Seattle School District. Using trends revealed by these data, adjusted for population growth, the projected enrollments in the currently offered programs were determined for 1975. These are shown in Table 13.

Using data from Table 13 the ratio of total FTE students in evening courses (631) to the total FTE students in day preparatory curriculums (1810) was multiplied by the total FTE students in the degree and diploma occupational preparatory curriculums recommended for the community college (5,575). This computation produces a projected potential enrollment of 1,933 FTE students in the part-time evening occupational courses.

TABLE 13
DATA EMPLOYED IN PROJECTING ENROLLMENTS IN PART-TIME EVENING OCCUPATIONAL COURSES

Present Programs Offered by Adult and Vocational Division-Seattle	Projected Enrollments for 1975	
	No. of Enrollments	FTE Stu.
Evening Trade Extension	3,000	103
Evening Apprenticeship Related	1,300	155
Evening Business Education	8,500	373
Total for Evening Courses	12,800	631
Day Trade Preparatory	2,016	1,306
Day Business Education	9,991	504
Total Day Preparatory	12,007	1,810

To obtain the projected gross number of enrollments in these evening courses, the projected number of FTE students (1,933) was multiplied by the ratio of the total number of evening course enrollments (from Table 13) 12,800 to the total number of FTE students in evening courses (631). This computation produces a projected potential of 39,400 enrollments in such evening courses during each year.

Conclusions and Implications for Facilities

No general summary of this chapter will be attempted. There are, however, certain pertinent conclusions to be drawn.

Emphasis must be put on the fact that these programs are not competitive. Each has a special purpose and the significance of each depends on the extent that it contributes to the quality and total purpose of the college.

Programs and other services of a college are very closely related. Accordingly the material in this chapter of necessity must be used as background material for the chapter on Services.

Neither Programs nor Services is the most important part of a college. It cannot be repeated too often that the student must be the prime consideration of a community college.

Finally, this chapter includes the following implications for facilities:

1. Careful attention must be given to the ratio between small groups and large groups. Decisions must be made with regard to the number of students in general classrooms, laboratories, and demonstration rooms. Provisions must also be made for faculty offices, conference rooms, secretarial facilities and other

instruction related areas. The purpose for which the space is to be used, and the relationship between the programs is also a vital consideration. This will avoid such errors in planning as having the library adjacent to music practice rooms and remote from course programs which use the library extensively.

2. A comprehensive program must be available on each campus. Each campus will have a special emphasis. Electronic devices including TV should be planned for especially in transfer programs.
3. A learning resource center should be planned on each campus.
4. The proportion of the total transfer program in each of the major subject areas is given in Table 6.
5. Special facilities with special equipment should be provided for the developmental program. Approximately one-third of the total enrollment should be planned for.
6. Facilities will be needed for 1,000 FTE day students in adult general education, especially those in programs needing special equipment.
7. Facilities will be needed to house 57 different occupational curriculums in 18 different clusters. There will be a total of 118 units in these curriculums with 41 leading to an associate in applied science, 53 leading to diploma, and 24 leading to certificate of completion.
8. The total capacity of occupational facilities needed will be be 6,195 with 1,640 on the North, 2,290 on the Metro, and 2,265 on the South Campuses.
9. Facilities will also be needed for 39,400 enrollments or 1,933 FTE in part-time evening occupational programs. These will be distributed in somewhat the same proportions as for daytime capacities.

VI

REVIEW OF SERVICE REQUIREMENTS FOR SEATTLE COMMUNITY COLLEGE

The purpose of this chapter is to provide an analysis of the services required for Seattle Community College in relation to the programs proposed in Chapter V.

Each section examines the characteristics of the service to be provided. It also includes specific recommendations with regard to the scope, quality, and organization needed and suggests guidelines for present and further planning especially as related to the facilities needed for each.

Administrative Services and Organization

There are states, such as Florida, where the community colleges are making excellent progress under an administration shared with the elementary and secondary schools. Such success is unexpected in view of the opinion of some leading authorities in the community college field. A close examination reveals that the success of these colleges is related to the prevalence of the following conditions:

a. The unified district is large enough to support such an institution.

b. The president of the college is usually at the level of a deputy superintendent of schools and reports directly to the board through the superintendent of schools.

c. The president hires his own staff, subject to board approval.

d. The president has complete responsibility for the operation of the college.

e. The president in turn delegates authority in such areas as student services, faculty, transfer and general education, vocational and technical education, adult education, budget and finances, and research and development.

f. The purposes of the community college are clearly stated and understood within the service area of the institution. Emphasis is given to the continued education of the individual up to the level of his interest and potential.

g. Specific attention is given to the needs of the community. This means not only the training of skilled employees and leaders for industry but also the providing of programs designed to upgrade workers, to improve the cultural and artistic appreciation of those living in the community and to give specific attention to the development of an articulate, knowledgable, and responsible citizenry that can make competent decisions relating to their own community, their State, the Nation, and the world.

h. Effective methods are developed for the smooth articulation of the student step by step from kindergarten through the community college and on to further education and training.

i. Specific attention is given to the opportunity for horizontal mobility. This means that the student is inconvenienced as little as possible in moving from an academic program to a vocational-technical one or vice versa or in moving from one cluster of occupations to another. This does not mean that a student should aimlessly move from program to program, but it does mean that after a reappraisal of his ability and interest, it is possible for him to move into an area that is more suitable for his capabilities.

j. The chief function of the administrative officers of the college is to facilitate teaching by the faculty and learning by the students.

In relating these conditions specifically to the Seattle Community College system there are a number of guiding principles which are recommended for general administrative organization and service. These are enumerated below:

(a) The president of the Seattle Community College system should have the greatest possible autonomy in the operation of the college. He should be directly responsible to the Seattle School Board through the Superintendent of Schools.

(b) As president of the college and Deputy Superintendent of Schools, he should have the major responsibility for determining policies and for the general administration of all campuses of the community college.

(c) He should have a small central staff consisting of professional assistants in planning, academic and general programs, adult and occupational programs, business services, faculty services and student services.

(d) His office should be located on a site separate from any college campus.

(e) He should have a line relationship with the chief administrative officer of each campus. This is shown in Figure 11.

(f) The president of the college system together with his campus deans and his staff should formulate policy matters related to student services, curriculum, financing, and all aspects of the operation of the college. These policy statements recommended by the president, should, after approval by the Board, be administered by the president.

(g) After rules, regulations and procedures are established to insure uniformity of accounting procedures, fees, and general policies, the president should then delegate to the campus vice-president the actual day-to-day administration of the individual campus.

(h) Each campus should have a comprehensive program offering transfer, general adult, and occupational education. However, the emphasis would be different on each campus—one might have a strong emphasis on industrial technologies, one on health services, and a third on business training. Community needs, available facilities, acreage, and priorities would all be taken into consideration.

(i) The president should make sure that each administrative official of the college

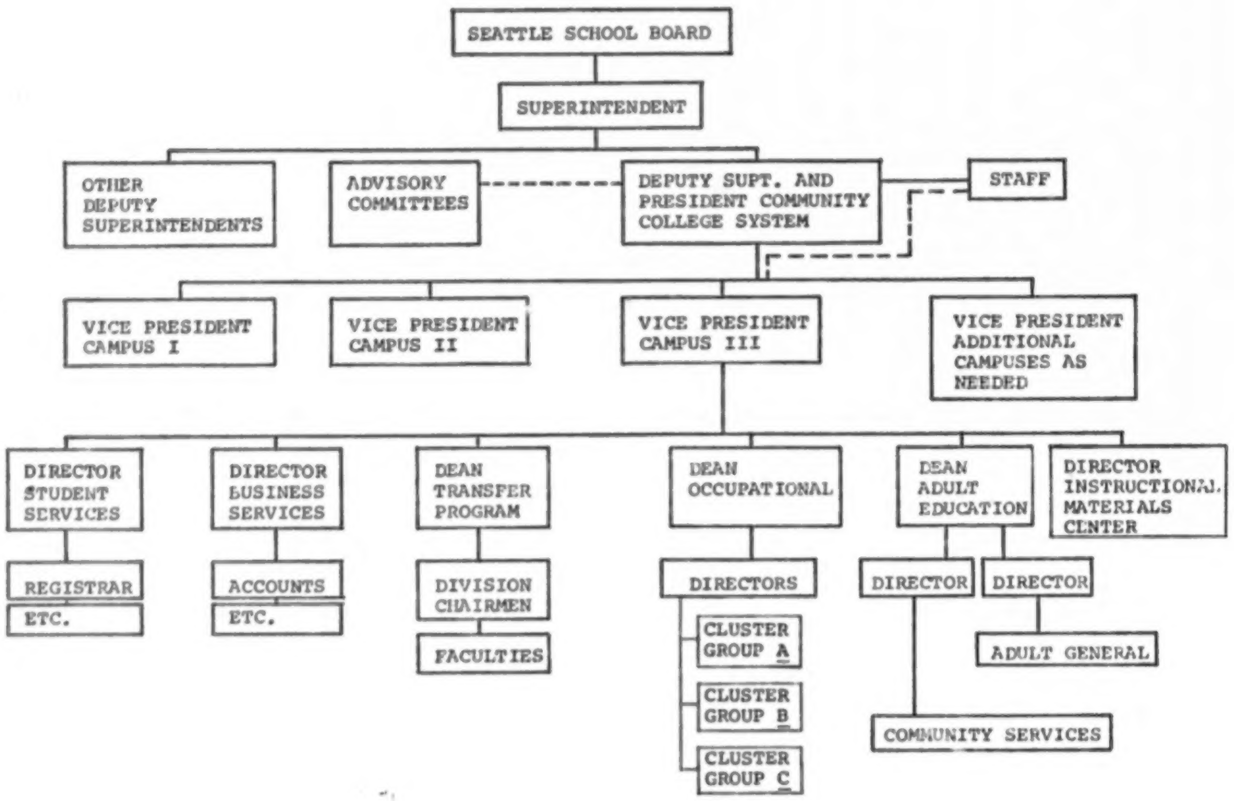
    1) has a clear understanding of the function of the Seattle Community College system

    2) has prepared in writing a statement of his own responsibility and authority. This should include not only staff and line relationships but also include all those sensitive areas where a part of the responsibility is shared among many people at different levels. (an example — preparing the college budget).

(j) The president should make sure that each student and each faculty member of the college has the opportunity to be represented on a committee which reviews and recommends policy matters affecting him.

FIGURE 11

ADMINISTRATIVE ORGANIZATION CHART
FOR SEATTLE COMMUNITY COLLEGE



(k) There should be five general steps in planning administrative services. These are:

  1) Identify the service needed
  2) Determine the specifications for the service.
  3) Establish relationships for organization and staffing following sound principles
  4) Develop procedures and policies of operation and prepare a manual to include these. Plan to revise the manual periodically.
  5) Use the data gathered to make projections of need, and to plan future services including estimates of staff and facility increases.

(1) When for reasons of economy or efficiency, it is considered best to use one of the central district administrative services on one or more of the college campuses, these services should be purchased by the college on terms agreed on in advance. (An example might be purchasing.)

(m) On each campus, care should be exercised that the administrative organization provides the proper balance. For example, academic and general programs should be no higher or lower in the administrative set-up than occupational programs. Other divisions at the same level might be adult general education, business services, student services, and library.

Business Services

Business services usually includes such items as financial reporting, budget preparation and control, receipt, administration and custody of funds, purchasing, internal auditing, contracts, payroll, investment of funds, business management of auxiliary enterprises, the construction, maintenance, and operation of physical facilities and the administration of non-academic personnel.[1] Frequently, these functions are grouped under various administrative heads including building and grounds, accounts, book store manager, director of food services, purchasing, and the like. In a community college, as in any other institution of higher education, the ultimate authority lies with the board of control. At each step, delegation of responsibility with adequate authority for certain selective functions is necessary to good administration.

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[1] Ayers, A. R. & Russel, John H. *Internal Structure-Organization and Administration of Institutions of Higher Education* HEW, Washington, 1962, p. 123.

In a community college, and especially one with several campuses, a clear delineation of authority and an understanding of relationships is certainly imperative. In accordance with the recommended procedure under administrative organization, it can be seen that the president of the community college system would have on his immediate staff a business administration officer who would be directly responsible to the president and through the president and the superintendent of schools to the Board of Education.

In developing a clear statement of the responsibilities of the business officer, careful attention must be given to the relationships between the business officer and the following:

a. The president of the system

b. The campus business officer

c. The chief of business affairs in the local school district as well as all his subordinates.

The Relationship of the Business Officer to the President of the College System

This is a clear-cut line of relationships in which the business officer acts for the president of the college system in all business matters and in terms of the rules, regulations, and the principles that have been agreed upon. The chief business officer has the responsibility for assisting in the development of policies and guidelines for the budget as related to the specific goals of the institution and the fund limitations. The chief administrative officer for business affairs, therefore, must not only be acquainted with sound business practice, have complete up-to-date information on the financial condition and expected needs of all of the parts of the community college system for which he is responsible, have an understanding of the long-range plans for the expansion of the community college, but also be able to relate these to the goals of each of the campuses.

Relationships with the Campus Business Officer

The chief business officer of the system must have a close working relationship with the business officers on each of the campuses. This is necessary in order to make certain that there is uniformity of business practice throughout all campuses and that the requirements for federal, state, and district reimbursement are being uniformly followed. The business official of the district can be extremely helpful to the principal officer of the campuses by relating the overall purposes of the system to the specific purposes of the campus. To avoid conflict, the chief business officer of the system should realize that the business officer of the campus is not directly responsibile to him but is responsible to the executive officer of his own campus.

The business officer of the campus should realize that he receives his responsibility and authority directly from the campus administrator and that this responsibility is in such matters as budget, security, custodial, maintenance, accounting, parking, book store, and food services.

The Relationships of the College Business Officer with the Business Officer of the School District and His Subordinates

This is one of the most difficult relationships to establish. It is simplified, however, by remembering that the business officer of the system is actually speaking and acting for the president of the college system; consequently there is no line relationship between the business officials for the district and the business official for the college system, any more than there is between the business official of the college system and of the individual campuses.

Specifically, this college system business officer, with the cooperation of the business officers on the various campuses and the president recommends the policies to be followed and administers these policies after they have been approved by the Board.

When it is deemed more efficient or more economical to have some of the services provided by the central school district rather than establishing a completely new one, these services should be purchased from the district by the community college on a contract basis.

From the above evaluation of responsibilities and relationships, the following conclusions can be drawn:

1. It is essential that the responsibility, authority, and relationships of the business officer with the president of the community college system be carefully spelled out in writing. There should be a clear differentiation between the line and staff relationships.
2. In a similar way, the responsibility and authority of the business officer on each of the separate campuses should be clearly identified in writing. While it is clear that the business officer of

the campus receives his responsibility and authority directly from the chief executive officer of that campus, provision should be made for a close working relationship between the various campus business officers and the chief business officer of the community college system.

3. There should be no line relationship between the Chief administrative officer for business in the district and the business officers of the college system or of the campuses. There should, however, be a cordial relationship between the district business officer and his subordinates and the business officer of the community college. In this way, the district business officer provides advisory and other services for which the community college is charged. The district officer does not have any policy making or supervisory functions over the community college. A specific example might be of value. Assume that the community college budget has been developed in cooperation with the various campuses, including the campus business officers, the president and business officer of the community college system. Purchasing of certain items might be accomplished by the district. Neither the purchasing agent nor the business officer for the district would have any authority to question the advisability of this purchase so long as it was a part of the line item in the budget and the budgeted amount had not been expended.

The recommendations of this section are in line with those found in other large unified districts having several campuses. They also conform to the policies and principles generally accepted for good business administration. One of these principles is that no individual in administration should be directly responsible to more than one immediate superior. Frequently, authority may be delegated through individuals in a line relationship.

In light of the guiding principles set forth for community colleges, the following recommendations are warranted with regard to business services. It is recommended that:

1. The president of the Seattle Community College system have on his own staff a trained and experienced business officer whose duties shall include:
   (a) establishing a uniform system of accounting for the college.
   (b) checking with the Seattle district administrative staff continually to make sure that all the required rules, regulations,

and standards for federal aid and for state appropriations are followed.

(c) developing a preliminary budget for the college system on the basis of need estimates prepared by the various campuses in terms of principles and priorities established in advance.

(d) serving as a member of the president's council to assist in developing policies, principles, and priorities.

(e) speaking for the president of the college system on all business matters, whether the audience be the district administrator, the campus officials, a legislative committee or the general public.

(f) establishing a sound communication system with all campuses and with the central district.

2. The administrative head of each campus have a trained and experienced business official on his staff. The duties of this official shall include the following:

   (a) Acting for the dean of the campus in coordinating all estimates and projections of needs and thus providing the materials necessary to develop a sound budget.

   (b) Assisting the department heads, the librarian and the dean with an estimate of income and expenditure for the campus.

   (c) Recommending through the campus dean, changes and improvements in budget procedures and priorities.

   (d) Setting up an effective communication system on the campus so that the librarian, each department head, as well as the dean and his administrative staff know each month the exact state of the budgeted, approved and encumbered funds for each line item.

3. General Recommendation

The business officer of the community college system and the campus business officer each draw up in writing a statement of the responsibilities, authority, and relationships attached to their respective positions. Not only should this statement indicate their relationship to each other but also the relationship between each and the campus dean, the president of the college system and the central administrative staff of the district.

Student Personnel Services

The student personnel services program in a community college provides for the most important responsibility of the institution in its relationship to the students—those services not directly involved in instructional activities or courses. Listed below are the major services, which are directly associated with students.

1. Admissions
2. Testing
3. Counseling
4. Relationships with secondary schools
5. Orientation of new students
6. Developmental services
7. Placement and follow-up services
8. Relationships with four-year institutions
9. Financial aid.
10. Student activities related to student government
11. Student social activities
12. Health services
13. Registration and student records[2]

Several observations regarding these services are appropriate for consideration:

1. The demand for counseling services in the community college is likely to increase rapidly during the next few years.
2. While internal administrative organization may vary widely among various community colleges, the need for the various services does not change except to increase. Some colleges try varied assignments of line and staff responsibilities and intense disagreement may follow any one of the varied assignments when made. Whatever assignment is made should carefully consider the totality of needs in this area and make certain all facets of student personnel services are taken care of in some way.
3. The SPS staff should provide an equivalent full-time person for every two hundred to two hundred-fifty students with appropriate consideration for the responsibilities for students who are enrolled in the community services program of the college. The work of these persons should be supplemented by selected faculty advisers.
4. Student Personnel Services should be located in places on campus which provide easy and inviting access and which are fairly centrally located in relationship to circulation.

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[2] J. W. McDaniel, *Essential Student Personnel Practices for Junior Colleges*, AAJC Bulletin, 1962, includes a list of 15 services.

5. Adequate privacy for advising, counseling, testing, and related activities must be provided.
6. Research activities need ready access to computer installations as is also true of registration, business office activities, etc.
7. Auxiliary services such as food, books, and supplies, and similar "money making" activities require supervision from the college staff. This assignment may also fall within the scope of the Student Personnel Services activities but not necessarily so.
8. Counseling and academic advising must be available to all students. This means that part-time students actually require a disproportionate part of the counselor's time if related to the full-time student enrollment.
9. Since the student body of the community junior college comes from varied and diverse backgrounds, the student personnel services program must provide ways of reducing intergroup conflicts which may arise from this diversity.
10. Student Personnel Services must be viewed as central to the program of the college rather than ancillary.
11. The consideration of the needs of students who commute must pervade all parts of the SPS program.
12. Special recognition of the characteristics of community college students must be an essential part of the SPS program. Such factors as age range, living and working situation, background, etc. are some things which must be considered.
13. In order for student services to be effective, it is essential that there be a continuing program of research. Especially significant for student services are research studies dealing with student characteristics, career opportunities, follow-up of students, and program development.

In light of the observations just made, the following are suggested as guiding principles for student personnel services in Seattle Community College.

1. There should be a student service staff member attached to the office of the president of the system. His major responsibilities would be:
    - (a) securing uniformity of pupil accounting on the various campuses.

(b) conducting institutional research especially as related to student characteristics which in community colleges are so different from high schools and universities.

(c) evaluating personnel practices and testing instruments.

2. On each campus there should be a trained staff in student services. The recommended number is one for every 250 full-time students. Thus a campus of 5,000 F.T.E. would have *20* trained staff members in student services in addition to necessary secretaries, statisticians, and other office help.

3. A suggested distribution of the 20 trained staff members would include both those engaged full time in student personnel services and those whose major responsibilities were in teaching, library or administration.

(a) Full time 13

Number	**Function Performed**
2	Admission, registration, records
1	Test and test administration and evaluation
6	Counseling and guidance
2	Deans, men, women
1	Health service (Nurse)
1	Placement, financial aids

(b) Part time 7 FTE

10 staff - 1/10 time = 1 FTE
Orientation, how to study, how to use library
20 staff - 1/20 time = 1 FTE
Student activities
50 staff - 1/10 time = 5 FTE
Program and occupational counseling

4. Those faculty members who by interest, experience, or personal capacity are most able to assist students in solving program and occupational problems should be encouraged to volunteer on a part-time basis. Their teaching or administrative loads should be lightened accordingly. As a part of the student personnel services, they should clearly understand the limits of their competency and the importance of referrals.

5. The orientation work can be accomplished in regularly scheduled classes in which the librarian as well as instructional services and administration share responsibility.

6. Either the dean of men or dean of women or both accept the responsibility for assisting in organizing the student activity program, including the newspaper, annual clubs, and student council.
7. Evaluation should be performed continually in cooperation with the community college central staff to review methods, to examine results, and especially to offer suggestions for the improvement of the curriculum and teaching methods.

Food Services

It is generally agreed that the principal function of the college institutional food service is to provide as economically as practicable, food of a quality and standard which will contribute to the healthful living of students and staff. However, for a commuting student body, there are many other functions that must also be considered in planning the organization, staffing and facilities needed for food services. A few of these are:

1. The cafeteria serves as an extension of the classroom. It is therefore essential to provide an attractive, relatively quiet atmosphere in which discussions can take place. Learning can be reinforced over a cup of coffee.
2. The food services provided for business, cultural and service agencies can make the public realize the extent to which the college really serves the community.
3. In community colleges which have occupational training in food services, another dimension is added. This requires the attention of instructional staff especially in the fields of dietetics, home economics and institutional management.
4. The cafeteria, dining halls, grills, snack bars, and soda fountains as parts of a student center building provide a home away from home for the many students who commute to the college. Provision must be made for conversation, study, waiting for a class, as well as eating and drinking.

In most community colleges, the food services, whether contracted for by an outside agency, or provided for by the college are under the direct supervision of the business office. In some colleges, the Director of Student Personnel Services has the supervisory authority with the business office handling the accounting only.

In a situation such as Seattle, food services both provide a necessary service and also offer occupational training as well. So in effect, there are three main administrative elements concerned; namely, instruction, student service and business. Each of these certainly has a vital concern for the adequacy of the program. The problem is to find a satisfactory balance.

It may eventually be decided to put food services under the supervision and control of the chief business officer on the assumption that this enterprise is primarily business in character. Before this is done, however, serious consideration should be given to including it as a part of student services. If it were found desirable to include it under the responsibility of the Student Personnel Service officer, there should be an advisory committee including all three administrative functions, business, student services, and technical education.

The following guidelines are suggested for planning, organizing, housing and financing food services.

1. A manual should be developed for food service operation. This manual should be specific in terms of:
    - (a) Policies regarding purchasing, storage and menus
    - (b) Inventory records
    - (c) Types of food service
    - (d) Food preparation
    - (e) Charges
    - (f) Equipment
    - (g) Sanitation and employee health
    - (h) Training of employees
2. Facilities Planning
    - (a) Each campus should have adequate and attractive food service facilities. The student center building, essential because of the mobility of student population is the logical location for these services.
    - (b) A variety of eating accommodations should be planned for each campus including a cafeteria, snack bar, student dining room, and faculty dining room. In planning the food service section, attention should be given to providing food services for community groups.

(c) Storage and refrigeration would be necessary on all campuses. If the preparation is mostly done on one campus, there would not be need for a kitchen and extensive food preparation facility on all of the campuses.

3. In financing the service, it is suggested that a special service revolving fund be used. It may be necessary, in fact, essential to provide a subsidy due to the fact that instructional services are provided.

Faculty—Policies, Promotion and Services

In most of the four-year colleges and universities, there is an administrative office called academic administration. This office is concerned with the development and implementation of policies relating to faculty personnel, curriculum, and instruction. Sometimes in a community college with the great emphasis on the student and the curriculum, the development of faculty policies is left to chance. This is in violation of the concept that everyone should be involved in policy determination which pertains to him. It is recommended accordingly that all matters relating to tenure, salary, load, and other policies dealing with faculty of the community college should be planned for in the establishment of the college. To make sure that the same principles are consistently followed on all campuses, it would seem desirable to have this service administered by the president or his staff rather than on each separate campus.

This may be a function that the president will not choose to delegate to someone else but which he will want to keep for himself. In this event, the president should set up a faculty committee whose sole responsibility is to examine, review, and recommend to him policy matters which concern them. Generally, this committee should not exceed 10-15 in number but should be representative of all of the campuses and all of the major curriculum divisions. It should be clearly understood that this committee does not *make* policy but merely *reviews* and *recommends*. Such a committee should concern itself with such matters as faculty load, salary, tenure, faculty parking, committee assignments, club sponsorship, and a great variety of other matters which are of vital concern to them and which would take much administrative time to reach a satisfactory resolution. This procedure is much preferred to one where the decisions regarding faculty policy matters are made at the administrative level.

Conclusions and Implications for Facility Planning

In any comprehensive community college, there are a variety of essential services to be performed. These relate to the student, the faculty, the program, and program improvement, to research and development and to business.

Any organization proposed is only for the purpose of efficiently performing the services and insuring that the responsibility for each is clearly delegated.

From this chapter the following implications pertinent to facility planning are apparent. These include:

1. The president of the Seattle college system and his staff should be located on a site separate from any campus of the community college.

2. Adequate offices should be provided to house the president and his staff and to facilitate the services needed. Staff offices, secretarial office and conference rooms should be included. Facilities for scoring aptitude, intelligence and interest tests might be provided here rather than on each campus.

3. On each campus, the facilities provided should include space for faculty offices, staff offices, secretarial offices, testing rooms, conference rooms and storage space for student records.

4. On each permanent campus, there should be a student center building which would contain a lounge, offices, and food facilities. Consideration might be given to including the counseling and guidance facilities and offices for dean of men and women in this facility.

5. The materials resources center as the center of the college should be carefully planned in relation to the student center and properly oriented with regard to the programs which will use it to the greatest extent.

6. Since the community college is planned to serve a broad range of age groups from high school graduates to older adults, its facilities should be constructed so that they are appropriate and attractive to adults.

VII

PROPOSED USE OF EXISTING FACILITIES BY THE COMMUNITY COLLEGE

Facilities heretofore used for adult and vocational education purposes are to be used in the community college program as long as the enrollment requires it. During the 1965-66 school year, facilities located on six sites in the city were used by the adult and vocational program. It is contemplated that during the 1966-67 school year, the community college program will require the use of all of these facilities except the Boat Shop and, in addition, will utilize the Old Summit Elementary School plant. Map 8 shows the approximate location of these facilities.

The Consultants have evaluated the facilities located at the centers referred to above. It is the purpose of this chapter to report the evaluation and to suggest the short and long-range use of these facilities.

The Boat Shop

This facility is located on the waterfront at 1115 N. Northlake. The building is leased for the program. The facility is too small, lacks adequate facilities for storage and has no classroom space.

The facility is inadequate for the program. Upon expiration of the present lease, the boatbuilding program should be moved to one of the facilities owned by the Board. The most appropriate temporary location for the boatbuilding program would perhaps be at the Gompers site.

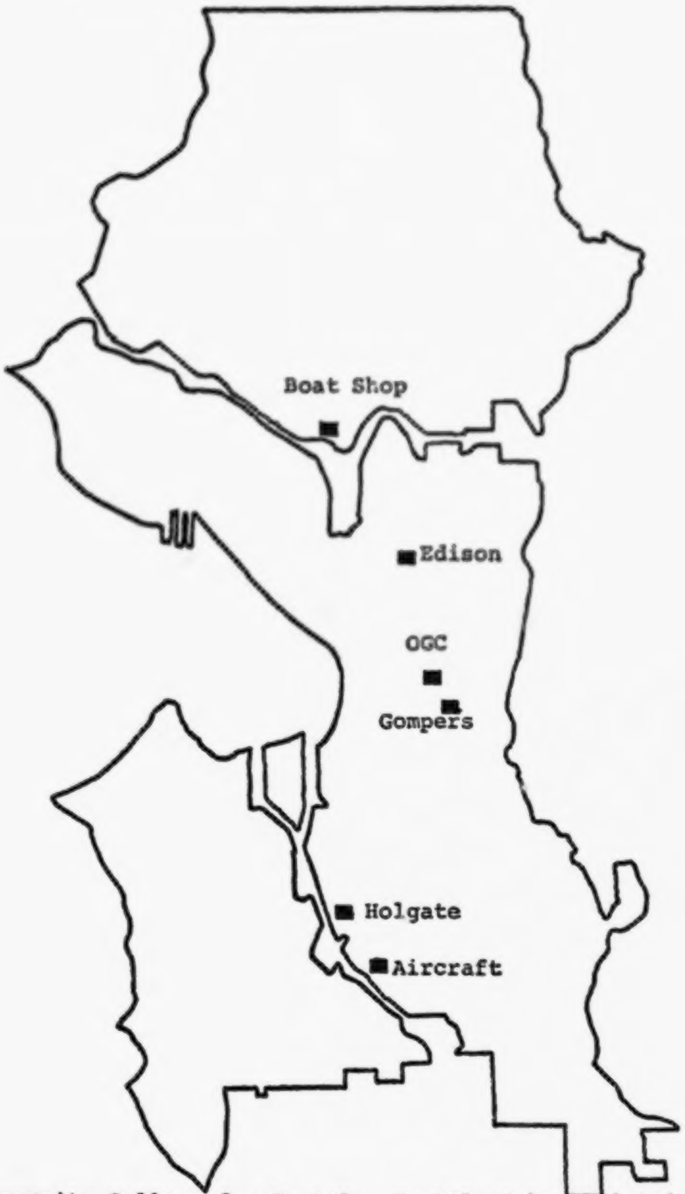
Holgate Plant

The Holgate plant is located on a 1.48 acre site in South Seattle. A small amount of paved parking is available. A minimum of landscaping is provided at the front of the building.

The plant consists of one building which is a double loaded corridor, one-story wood frame building. The building was constructed in 1943 for elementary school purposes. The facilities in the school include 15 classrooms used for a variety of purposes, administrative offices, men and womens' toilets, guidance and counseling offices, a book store, a cafetorium, and a boiler room.

MAP 8

EXISTING FACILITIES – FALL, 1966
SEATTLE COMMUNITY COLLEGE
SEATTLE SCHOOL DISTRICT



Source: A Community College for Seattle, Seattle School District.

A typical classroom contains approximately 660 square feet. Classrooms are lighted by fluorescent fixtures and incandescent opulescent globes. Heating is by a central hot water system with radiators in the classrooms. Water and sewer are provided by the city. Floors are wood. Toilet rooms are tile finished.

This plant has a capacity of approximately 300 student stations.

This facility provides reasonably satisfactory space for the program currently operated in it. The building can be continued in use until such time as new facilities are provided at the new South Campus.

For the long-range period, this facility should be utilized to house temporary and special occupational programs for which there is no guarantee of permanent need. The Manpower and Development and Training Act and the Office of Economic Opportunity programs are examples of such programs.

Gompers School Plant

The Gompers site is located between 23rd Avenue South, 24th Avenue South, King Street and Lane Street. The site consists of approximately two acres of land. Paved walks and a small graveled parking lot are provided.

The plant currently consists of a one-story masonry building, five frame double classroom portables and four frame single classroom portables.

The main building contains two large carpenter shops, a masonry shop, a glass and glazing shop, a woodworking shop, offices, a conference room, two balcony classrooms and four mezzanine classrooms, mens and womens' toilet rooms, a custodian's room, storage space, and a mechanical room. Incandescent industrial type fixtures provide light. Floors are of concrete finish. Exposed wood beams, wood deck, and frame and masonry interior walls constitute the interior finish.

Trade extension and apprenticeship programs are operated in the portable buildings. The portable buildings are considered to be temporary facilities.

The main building is in good condition structurally and is well maintained. It is a very satisfactory facility from a functional point of view except that auxiliary service facilities such as cafeteria, guidance and counseling rooms and administrative facilities are not available. The lack of complete facilities is a handicap to the program.

This plant should be discontinued for use as a part of the proposed community college program when facilities are made available on a new and adequate site. Appropriate long-range use of the plant might be as a center for pre-vocational programs for high school youth, as a maintenance shop or as a central warehouse for the school district.

Central Guidance Center
(Old Washington Junior High)

The site for the Central Guidance Center is located at 18th Avenue South and Main Streets. The site contains approximately 2.9 acres covered largely with buildings. The site surrounding the buildings is largely hard surfaced for parking use.

The plant consists of a three-story frame and stucco building with a recently constructed gymnatorium addition and nine portable classroom units. The main building consists of administrative and counseling offices, fifteen rooms used as classrooms, three rooms designed as classrooms but currently used for office and lounge space, a classroom used as a library, a cooking and sewing room, a lunch room facility now being used as a multi-occupational lab, woodworking and crafts shops currently used as labs for "assembly" and "order filler" occupations, shower and locker rooms, gymnatorium, mens and womens' toilets, book rooms, and storage rooms.

A typical classroom in the main building contains approximately 800 square feet and has finished wood floors, three rows of fluorescent lights, double roll shades, adequate heat and satisfactory ventilation. Most classrooms were not designed for the purpose for which they are now serving which limits and handicaps the program to a considerable extent. However, the building is comfortable and can serve temporarily until an adequate facility which is appropriate in plan and design can be provided.

The general condition of the main building is satisfactory. It is clean and reasonably well maintained.

This facility should be continued in use as temporary housing for the programs now in operation at the site. The facility is obsolete for a modern elementary or secondary program, and is inadequate for its current functions.

As soon as space is available at a new and adequate site, the programs housed in this plant should be moved to the new location. The existing facility should either be sold or converted for use as a center for pre-vocational programs for high school youth.

Aircraft Branch Site

The Aircraft Branch site is located on East Marginal Way in the vicinity of Corson Avenue. The very inadequate site consists of 6.2 acres of level, relatively undeveloped land. Access to the site is from a heavily traveled major arterial street which is dangerous.

The plant consists entirely of portable and war surplus temporary buildings and includes: (1) a metal building containing the airframe shop, tool rooms, offices, toilets, locker rooms, a related classroom and other special and auxiliary spaces (2) a second metal building containing the engine shop, toilet rooms, offices, tool rooms, and a related classroom, and (3) eight portable units housing electronics and electrical trade classes. The plant lacks complete and adequate facilities.

This site and facilities should be abandoned and the property sold or traded for the benefit of the community college program as soon as permanent facilities are provided on a new and adequate site.

Edison Technical School
(Broadway Plant)

The site for the Edison Technical School is located at Broadway and Pine Streets in downtown Seattle. The site contains approximately 2.47 acres, most of which is covered by buildings. A small portion of the site is landscaped. Parking spaces are extremely limited.

The plant consists of a multi-story stone building (Edison South) constructed in 1902 with additions in 1911, and a multi-story masonry and concrete frame building (Edison North) constructed in three stages—in 1921, 1940, and 1946. The following facilities are contained in the buildings at the site:

1. The Edison South Building contains the following facilities: 4-homemaking rooms, 3-distributive education rooms, 1-electrical lab, 3-arts and crafts, 4-data processing, 1-dry cleaning lab, 1-printing and duplicating lab, 10-typing labs, 32-classrooms, 5-business machines labs, 1- chemistry lab, 1-physics lab, 1-biology lab, 1-language lab, and 1-cake decoration lab.

   This building has an estimated total of 1,974 student stations.

The Edison South building is heated by a central system which is adequate although there are no room thermostats to allow individual room controls. Reports indicate that the electrical wiring in the building has been modernized and that it is adequate; although the electrical lighting system in the classrooms is obsolete and inadequate. Plumbing lines and runs are reported to be in good shape; however, toilet fixtures are inadequate for the student capacity on each floor level. Toilet rooms are in poor condition with inadequate lighting; all toilet rooms are dark and dingy and in need of modernization. Corridor and classroom floors will need resurfacing throughout the building.

The fourth floor of the Edison South building was closed to use about ten years ago due to a lack of sufficient emergency exits and due to advice that the fourth floor area was structurally unsound. Investigation revealed no authorative written reports to this effect; although intensive inspections reportedly have been made. According to present day standards, this building does not meet fire safety criteria which are used in planning new multi-story buildings. Stairwells must be fully enclosed. Both stairways and corridors must be finished with one-hour rated materials and the building may require the installation of a sprinkler system. Materials used in the construction of corridors and stairways will require fire rated materials to meet code requirements. Reports from the School District indicate that the building lacks sufficient means of egress, as well.

From an educational adequacy standpoint, the size of rooms, the physical environment of the instructional spaces and the built-in equipment are obsolete. As a matter of fact, classes have been taught in science labs in which the built-in equipment has been obsolete for several years. Many classes are taught in rooms that are entirely makeshift spaces. The library is totally inadequate. Laboratory classes are housed in rooms never intended for instructional use. There is a lot of wasted and unused space in this building due to design characteristics. The lack of adequate space and equipment has handicapped the instructional program at Edison for a number of years. It is the opinion of the Consultants that this building is extremely obsolete. In its present condition, the building will not provide effective space for a modern community college instructional program.

2. The Edison North Building contains the following facilities:

   Machine shop and related spaces, power sewing lab, electrical appliance lab, metal fabrication and welding technology lab, tailoring lab, automotive trades lab, 2-automotive shops and related spaces, electrical trades lab, 4-practical nursing labs, a painting and decorating lab, a teacher training lab, a projection room, a cosmetology lab, a watch and instrument repair lab, a millinery lab, a commercial dressmaking lab, 3-food and restaurant trades labs, 1-dining room, cafeteria, bakery sales room, a drafting lab, a sheet metal lab, a welding shop, a mechanical drafting lab, an advertising art lab, 4-electronics labs, a dental assisting lab, a baking lab, and 12 related classrooms.

   The estimated number of student stations in this building is 576.

   The building services are generally adequate. Heating is supplied from the Edison South boiler room. Lighting is adequate. Sanitary facilities appear to be adequate. This building is in good condition.

   The structural design of this building makes its interior readily adaptable to changing educational needs. Walls are non-load bearing and structurally the design provides spaces that will allow changes in space sizes that are compatible with needs. Reports also indicate that the structure was designed to take additional stories.

   This building is an extremely usable building. It can be used effectively for many years to come to house occupational and related curricula offered by the community college.

The following comments summarize the overall evaluation made of the Edison Plant:

1. The site is too small and would need to be expanded if it is to be used in the community college program. Vacant lots as well as those with old buildings on them, located in the immediate vicinity, should be purchased as they become available to provide room for expansion of the college.

2. The Edison South building is educationally obsolete and will require an extensive amount of work to make it an efficient educational facility. Questions regarding its fire safety condition,

as well as, its structural soundness should be resolved. Likewise, sanitary facilities may require expansion as well as modernization to meet code requirements.

3. It is the opinion of the Consultants that further studies are needed of the Edison South building in order to determine whether or not it should be abandoned or retained. Further studies should include:
   a. An investigation to determine the structural stability of the building with recommendations for improvement or abandonment.
   b. An analysis of fire safety deficiencies with recommendations for improvement. The Consultants raise serious questions concerning the building's adequacy in this regard.
   c. A sanitation inspection to determine needs to meet current sanitary code requirements.
   d. A cost analysis to estimate how much money will be required to upgrade the building to meet modern educational, structural, fire and sanitation standards.
4. The Edison North Building is adequate and can be utilized effectively in the long-range program of the community college.
5. Facilities with a capacity of 5,000 students are needed for the central Seattle area. The existing facilities at Edison fall far short of this number. The existing site is not easily expanded. Consideration should be given to razing Edison South and constructing in its place a high rise building to supplement the capacity of the Edison North building. This approach would limit the requirement for extensive land purchase and would allow the construction of additional plant capacity to meet the needs of the college on the existing site.

Summary and Conclusions

The following points summarize the evaluation of existing facilities and suggests possible short and long-range uses of them:

1. The boat shop is leased by the school district. It is inadequate and the program could perhaps be as well, if not better, served if moved to a site owned and operated by the District. The Consultants suggest the Gompers site as a temporary site until

a permanent site is provided for the community college program. A waterfront site is not considered to be absolutely essential to this program.

2. The Holgate building provides satisfactory space for the program currently housed in it. The facility should continue to be used to house the temporary and special programs for which there is unlikely to be a permanent program. Examples include MDTA and OEO programs.

3. The Gompers building and site provide reasonably good space for the programs housed in the main building. The lack of complete facilities and the limited program make its use undesirable for the long-range community college program. The permanent building could be used as a pre-vocational center for high school students, as a district maintenance shop building or as a warehouse. The use of this building should be discontinued when permanent facilities are provided for the college program.

4. The Central Guidance Center plant is an obsolete junior high school facility which provides reasonably satisfactory space for many of the programs it houses, but provides makeshift and unsatisfactory space for others. This plant should be discontinued in use for the community college program as soon as facilities can be provided to replace it.

5. The Aircraft Branch facilities are World War II temporary buildings and are inadequate for the purposes they purport to serve. The use of this facility should be discontinued as soon as permanent facilities can be provided for the program on a new community college campus. The site should perhaps be sold or traded for the benefit of the community college program.

6. The Broadway School (Edison) site should be retained for use in the community college program. It can be used for several years with minimum expense while permanent campuses in other locations are being planned and constructed. For the long-range program, the Consultants believe that careful consideration should be given to abandoning the Edison South building and replacing it with a modern high-rise structure. Edison North should be retained and rehabilitated for use in the long-range program of the community college. Limited expansion of the small Broadway site would be essential to provide needed space for college expansion.

VIII

ESTIMATE OF LONG-RANGE FACILITY NEEDS SEATTLE COMMUNITY COLLEGE

General

The purpose of this chapter is to provide an estimate of the facility needs for the three campuses recommended for Seattle Community College by 1975. Enrollment data and total program requirements projected for the recommended campuses were the basic considerations in developing the estimates of facility needs. Estimates of the cost of facilities and equipment are also included.

Presented herein are estimates of the number and types of facilities needed at each recommended campus and the amount of floor space required for the needed facilities. The space estimates are intended as *guides* for making cost estimates and for general site planning. Room layouts prepared from educational specifications should be the final basis for determining the amount of space actually required for the various services and the instructional program of the college.

Estimate of Space Needs

Space estimates were made for each campus based on the program of anticipated services, the estimated number of faculty and personnel and the curriculum requirements presented in previous chapters of this report.

Space Estimates for the Transfer Program

The curriculum requirements outlined in Chapter V provided the basis for estimating the number and types of classrooms and laboratories needed on each proposed campus. The approach used is based on the assumption that a unit of need for teaching space is best represented by one-student-in-one-classroom-for-one-hour. The procedure used is as follows:

1. The percentage of the total student credit hours in the transfer program devoted to each course was compiled from data about four representative community colleges and adjusted for Seattle by agreement with Seattle Community College officials.

2. The adjusted percentages were multiplied by the total anticipated student credit hours at each campus to estimate the student credit hours in the various curriculums. Sixteen credit hours were used as the equivalent load of a full-time student.

3. Student class sizes suggested in Chapter V were used as a capacity for the proposed facilities.

4. It was assumed that each classroom or laboratory would be available 35 periods each week.

5. The number of class periods required was computed by dividing the total student credit hours by the average class size.

6. The number of classrooms and laboratories was computed by dividing the number of class periods needed by the estimated number of periods a room would be available during the week.

Table 14 shows the calculated room requirements for the North, Metro and South Campuses. Table 15 which follows provides a summary of classroom and laboratory needs by 1975.

Table 16 shows the manner of distributing classroom requirements by size in the estimates. The distribution of classroom sizes shown was based on the percentage distribution of class sizes found in four Florida community colleges with an FTE enrollment in their transfer programs approximately equal to that projected for Seattle. Detailed estimates of all space requirements are shown in Appendix B.

Space Estimates for the General Adult Education Program

Estimates of classrooms were made for the adult general education program by using the following standard formula:

$$\frac{\text{No. of FTE Students}}{\text{Avg. Class Size}} \times \frac{\text{Hours Per Week in Class}}{\text{35 hours per week classroom available}} = \text{No. CR's Needed}$$

In addition to the above, facilities were projected for general science, reading skills, language development, and faculty offices. The detailed needs for specific spaces are shown in Appendix B. A summary of general education space needs is shown in Table 17.

TABLE 14
CALCULATED ROOM REQUIREMENTS FOR THE COMMUNITY COLLEGE TRANSFER PROGRAM AT PROPOSED CAMPUSES
SEATTLE COMMUNITY COLLEGE
1975

	North Campus[a]					Metro Campus[a]				South Campus[a]			
	Per Cent	No. SCH	Avg. Cl. Size	No. Class Prds.	No. Units	No. SCH	Avg. Cl. Size	No. Class Prds.	No. Units	No. SCH Avg.	Cl. Size Avg.	Cl. Prds.	No. Units
Fine Arts													
Art	3.50	1881.6	20	94.08	3.84	1517.6	20	75.88	3.18	1531.6	20	76.58	3.21
Music	3.80	2042.9	20	102.15	3.68	1647.7	20	82.39	3.41	1662.9	20	83.15	3.45
Speech-Drama	.70	376.3	20	18.82	1.00	303.5	20	15.18	1.00	306.3	20	15.32	1.00
Total	8.00	4300.8				3468.8				3500.8			
English	15.97	8585.5	30	286.18	10.39	6924.6	30	230.82	8.37	6988.5	30	232.95	8.46
Journalism	.14	75.3	20	3.77	.14	60.7	20	3.04	.11	61.3	20	3.07	.11
Foreign Lang.	5.49	2951.4	24	122.98	5.46	2380.5	24	99.19	4.59	2402.4	24	100.10	4.63
Total	21.60	11612.2				9365.8				9452.2			
Math	9.49	5101.8	30	170.06	6.17	4114.9	30	137.16	4.98	4152.8	30	138.43	5.03
Physics	2.81	1510.7	24	62.95	2.90	1218.4	24	50.77	2.33	1229.7	24	51.24	2.35
Total	12.30	6612.5				5333.3				5382.5			
Life Sci.													
Biology													
Lec	7.31	3929.9	30	131.00	4.75	3169.6	30	105.65	3.84	3198.9	30	106.63	3.87
Lab	3.87	2080.5	24	86.69	3.99	1678.0	24	69.92	3.22	1693.5	24	70.56	3.25
Chemistry													
Lec	2.74	1473.0	30	49.10	1.78	1188.1	30	39.60	1.44	1199.0	30	39.97	1.45
Lab	4.58	2462.2	24	102.59	4.72	1985.9	24	82.75	3.80	2004.2	24	83.51	3.85
Total	18.50	9945.6				8021.6				8095.6			
Social Sc.	25.10	13493.8	30	449.79	16.32	10883.4	30	362.78	13.17	10983.8	30	366.13	13.28
Bus. Admn.	4.50	2419.2	20	120.96	4.39	1951.2	20	97.56	3.54	1969.2	20	98.46	3.57
P.E.	10.00	8000.0[b]	40	200.00	9.19	8000.0[b]	40	200.00	9.19	8000.0[b]	40	200.00	9.19

[a] Transfer student enrollments at the North, Metro, and South Campuses are 3360, 2710, and 2735.

[b] Adjusted for 5000 FTE students.

TABLE 15

SUMMARY OF ADJUSTED CLASSROOM AND LABORATORY NEEDS FOR THE TRANSFER PROGRAM, SEATTLE COMMUNITY COLLEGE, 1975

	North		Metro		South	
Category	Labs	Class-rooms	Labs	Class-rooms	Labs	Class-rooms
Art	2	1.84	2	1.18	2	1.21
Music	2	1.68	2	1.41	2	1.45
Speech-Drama	1	----	1	----	1	----
English	--	10.39	--	8.37	--	8.46
Journalism	--	.14	--	.11	--	.11
Foreign Language	1	4.46	1	3.59	1	3.63
Mathematics	--	6.17	--	4.98	--	5.03
Physics	3	----	3	----	3	----
Biology	4	4.75	4	3.84	4	3.87
Chemistry	5	1.78	4	1.44	4	1.45
Social Science	--	16.32	--	13.17	--	13.28
Business Administration	--	4.39	0	3.54	--	3.57
P. E.	6	4.00	6	4.00	6	4.00
Total	24	56.00	23	46.00	23	47.00

TABLE 16

ESTIMATED DISTRIBUTION OF CLASSROOMS BY SIZE AT THE THREE PROPOSED CAMPUSES FOR SEATTLE COMMUNITY COLLEGE

Classrooms	0-19	20-39	40-59	60-99	Ttl.
% of Total	30%	60%	8%	2%	100%
North	16.80	33.60	4.48	1.12	56.
Central	13.80	27.60	3.68	.92	46.
South	14.10	28.20	3.76	.94	47.

TABLE 17

SUMMARY OF GROSS SPACE ESTIMATES BY RECOMMENDED CAMPUSES AND MAJOR TYPE OF SPACE

Major Facility Type	North		Metro		South	
	Amount	%	Amount	%	Amount	%
A. Administration	10,025	2.0	10,025	1.8	10,025	1.7
B. Transfer Program	130,565	25.8	119,225	21.2	119,625	20.3
C. Occupational Prog	63,700	12.6	110,550	19.7	127,950	21.7
D. Adult Gen. Educ.	12,990	2.6	12,990	2.3	12,990	2.2
E. General Inst. Fac	61,395	12.1	61,395	10.9	61,395	10.4
F. Gen. Svc. Fac.	50,145	9.9	50,145	8.9	50,145	8.5
Net Total	328,820	64.9	364,330	64.9	382,130	64.9
Corridors, Walls, etc.	177,563	35.1	196,738	35.1	206,350	35.1
Total (1.54 X Net)	506,383	100.0	561,068	100.0	588,480	100.0
5 per cent contingency	25,319	----	28,053	----	29,424	---
Grand Total	531,702	----	589,121	----	617,904	---

Space Estimates for the Occupational Program

Space estimates for the occupational program were based on the number and type of occupational curriculum units recommended in Chapter V. A special laboratory was recommended for each curriculum unit except in cases where it was clearly possible to use a regular classroom for instructional purposes, or where needed skill training would perhaps be accomplished on the job, or in other laboratories provided for other specific curriculums in the cluster.

Classrooms required to serve the general education needs of occupational students were estimated as follows:

1. It was assumed that degree students would spend ⅓ time in laboratory instruction and ⅔ time in general education. Therefore, 2 classrooms would be needed for each curriculum unit recommended.
2. The assumption for diploma students was that ½ time would be spent in laboratory experiences and ½ time in general education. Consequently, one classroom would be needed for each curriculum unit.

3. For the certificate curriculum, students would spend ⅔ time in laboratory experiences and ⅓ in general education; therefore, one classroom would be needed for each two curriculum units.

The recommended classroom and laboratory spaces are shown in Appendix B. Table 17 summarizes the data regarding total needs for the occupational education program.

General Service and Special Instructional Facilities

The types of facilities proposed for administrative services, special instructional purposes and for general services to the college were determined by using the descriptions of services found in Chapters V and VI. Sizes of spaces are based on data gained from experience and from data used in planning other community colleges with similar programs. Appendix B shows the recommended number and types of facilities and the total space needs. Table 17 presents a summary of the space needs for the general and special instructional facilities at the three proposed campuses.

Suggested Schedule for Completion of Proposed Construction

There is a backlog of need for community college services in Seattle School District as is evidenced by the number of graduates from Seattle's high schools attending community colleges elsewhere. Furthermore, projected enrollments show that by 1970 there is likely to be an enrollment potential of 10,369 students. Should this potential be realized, at least two community college campuses of 5,000 capacity each should be in operation by that time. In order to complete the planning, acquire the sites and construct the buildings, one campus should be under construction by 1968 and another by 1969.

The projected enrollment potential for 1975 shows the need for a third campus of 5,000 students; therefore, the facilities for the third campus should be under construction by early 1974 in order to be available by the fall of 1975.

The following construction schedule is proposed:

	Bid Date	Completion Date
North Campus	Jan., 1968	August, 1969
South Campus	Jan., 1969	August, 1970
Metro Campus	Jan., 1974	August, 1975

The proposal that the North Campus be constructed first is based on the following considerations:

1. The central and southern areas of Seattle are in close proximity to existing facilities at Edison, Holgate, Central Guidance Center and Gompers, while the North Seattle area has no facility conveniently accessible.

2. The greatest potential in terms of future enrollments is in the North Seattle area.

3. Facilities to be located on the South Campus are largely duplicative of those at the Holgate, Gompers and Aircraft sites, and to some extent the Edison facilities. Consequently, the construction of facilities at the South site would reduce the time during which existing facilities could be utilized in the program.

4. An additional year to study and plan curriculum requirements at the South site would improve the possibility that the more complex occupational program scheduled for the South campus would fulfill student needs.

Estimated Costs of Proposed Facilities

Costs estimates for recommended facilities have been projected using both the Boeckh Index and the State Ceiling as guidelines. Table 18 compares the actual square foot costs for school construction in the Seattle area with both the Boeckh Index and the State Ceiling costs for the years in which data were available. The actual costs of construction shown in Table 18 are for four complete senior high school plants constructed in Seattle and for two community college projects constructed in the Seattle area on the dates indicated. The data for Seattle High Schools were used because they more nearly represent the type of construction found in community colleges and are the only data available from the Seattle School District. However, it is likely that community college construction costs will exceed that for the high schools due to the usually more complex requirements for utilities and fixed equipment. A cost of from 10 to 20 per cent more is not unusual. Actual cost data for Seattle include construction, sales tax, and fee costs. Other data do not include fees and sales tax.

In order to project probable future costs a weighted index was computed expressing the relationship between actual square foot costs for the Seattle area and the two state indices. By extending the curves representing the Boeckh Index and the State Ceiling, the future costs of construction in Seattle could be roughly approximated. Figure 12 shows the actual data for the two indices as well as actual and estimated future square foot costs of school construction in the Seattle area. According to these data, Seattle area construction costs will continue to exceed both the Boeckh Index and the State Ceiling costs. The cost figures used in making the estimates were derived by applying the index shown in Table 18 (1.03) to the projected Boeckh Index for 1968 and 1969. To allow for probable cost differences due to the type of construction, the projected data have been increased by 10 per cent. The costs used in the projection are:

TABLE 18

COMPARISON OF ACTUAL COSTS FOR SCHOOL CONSTRUCTION IN THE SEATTLE AREA TO THE BOECKH INDEX AND THE STATE CEILING 1956-66

Low Bid Date	Boeckh Index	State Ceiling	Actual Cost	Ratio $\frac{C}{BI}$	Ratio $\frac{C}{SC}$
4-27-56	14.44	13.03	15.31	1.06	1.17
7-30-58	15.35	13.82	16.04	1.04	1.16
5-27-59	15.72	13.96	15.53	.99	1.11
4-24-62	16.67	15.04	16.49	.99	1.10
12-22-65	18.43	16.63	20.51	1.11	1.23
3-15-66	18.35	16.56	18.10	.98	1.09
Index				1.03	1.14

Source: Actual data from the records of Seattle School District. State Ceiling data records of SDE, Olympia, Washington.

1968 – $22.43 per square foot
1969 – $22.72 per square foot

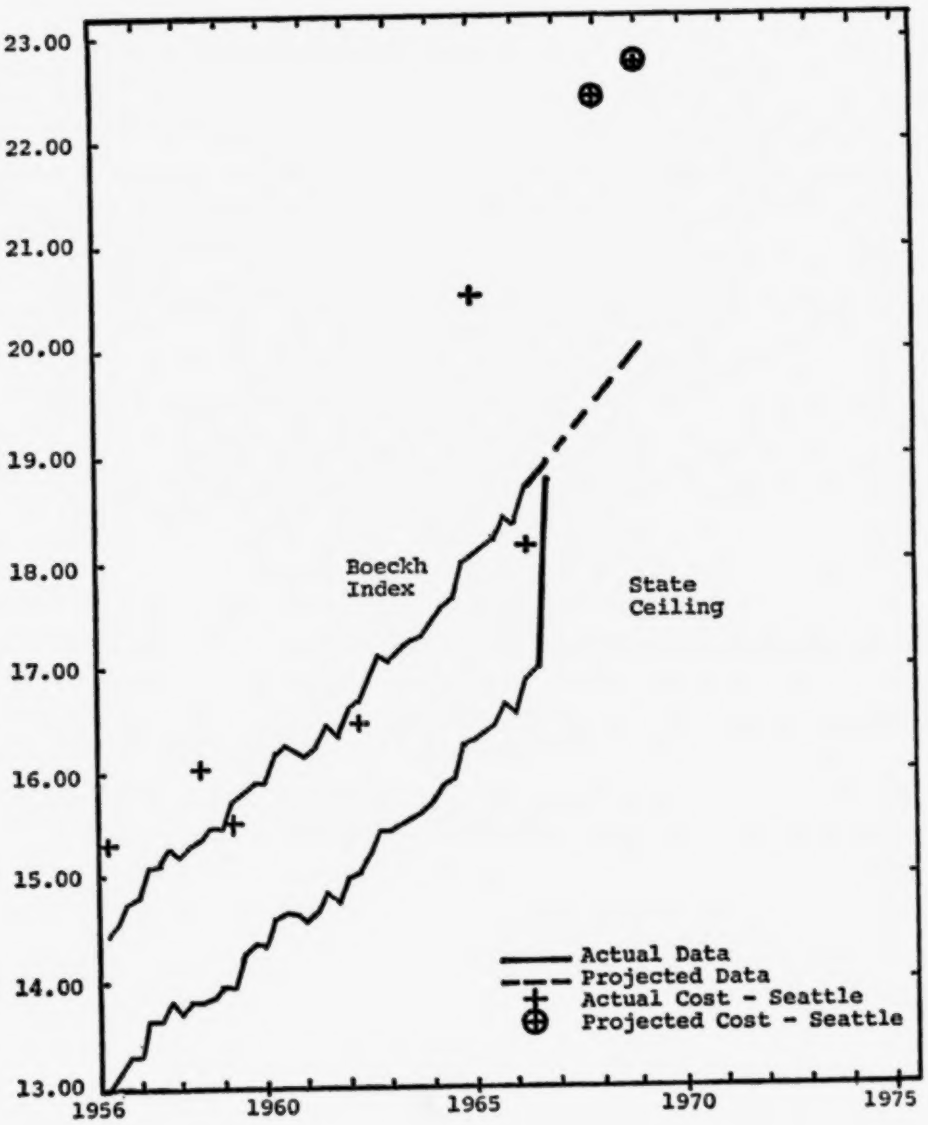
Costs for 1975 are highly conjectural; however, a cost of $30 per square foot has been used.

Furniture and equipment costs were estimated using 20 per cent of construction costs for all facilities except those for the occupational educational program. To estimate the cost of furniture and equipment for occupational programs, 50 per cent of the estimated construction costs of proposed occupational facilities were used.

Table 19 shows the summary of costs for construction, fees, taxes, and furniture and equipment at each campus. It should be noted that

FIGURE 12

PROJECTED COST FOR THE CONSTRUCTION OF FACILITIES FOR SEATTLE COMMUNITY COLLEGE



should the existing facilities at the Broadway site be utilized in the long-range program, the estimated costs for construction at that site should be reduced by the equivalent cost of usable space and adjusted further by the cost of remodeling and rehabilitation needed.

TABLE 19

SUMMARY OF ESTIMATED COSTS OF CONSTRUCTION, FEES TAXES AND EQUIPMENT FOR THE PROPOSED CAMPUSES[a] SEATTLE COMMUNITY COLLEGE

Item	North Campus	Central Campus	South Campus
Construction, Fees & Taxes	$11,926,076	17,673,630	14,038,779
Occupational Furn. & Eqpt.	1,955,877	4,047,262	3,179,784
Other Furn. & Eqpt.	1,602,865	1,915,821	1,535,842
Total Costs	$15,484,818	$23,636,713	$18,754,405

[a] Site purchase, site development and administrative costs are not included in the data from this table. Should extraordinary costs be likely, an amount for contingencies should be included.

Facilities for the Central College Administration

In Chapter VI, it was suggested that the office of the president of Seattle Community College and his staff should *not* be housed at either of the three recommended campuses. Separate facilities should be provided either at the District School Administration Building or in some other central location so as to provide convenient access to both the community college campuses and the School District Administration Offices. No estimate of space needs have been made for this purpose.

Summary

The number and types of facilities and their space requirements have been estimated in this chapter. A schedule of construction has been recommended and probable costs have been calculated.

The data show that estimated space needs for the North, Central and South Campuses are 531,702; 589,121; and 617,904 square feet, respectively. The estimated costs of construction, fees, taxes, and furniture and equipment at the North, Metro, and South Campuses are $15,484,818, $23,636,713, and $18,754,405 respectively.

The schedule of construction recommended for the completion of construction at the three campuses was 1969 for the North Campus, 1970 for the South Campus and 1975 for the Central Campus.

IX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary and Conclusions

The purpose of this report has been to present a long-range facilities development plan for the Seattle Community College. This plan includes enrollment projections, suggested programs and services needed, an evaluation of existing facilities and proposed sites. In addition, it deals with the number of needed sites, a proposed construction schedule and cost estimates.

The student enrollment potential of the Seattle Community College was arrived at by considering such factors as: the number of public and private high school graduates of the area, now and in the future, population trends in Seattle, admission requirements at four-year colleges and universities, and the number of Seattle high school graduates attending community colleges in the State of Washington.

Using these data and applying projection methods similar to ones that have given conservative estimates in similar situations, an estimated full-time enrollment of 10,369 was projected for 1970 and 15,440 for 1975.

These estimates do not include the estimated 1933 full-time equivalent enrollments in trade extension and apprenticeship curriculums by 1975, but do include the 1000 FTE in general adult and non-transfer day programs by this date.

The projected total community college enrollment was based on the assumption that facilities would be available and that 40 per cent of the total would be developed and maintained in occupational programs. The other 60 per cent would include 53.5 per cent transfer and 6.5 per cent general adult and non-transfer enrollments.

An examination of student enrollments at urban community college campuses in other states revealed that approximately 70 per cent of the students lived within five miles of the campus. This suggested the advisability of considering at least three campuses for the Seattle Community College.

Exploring the number of campuses needed further, other significant local factors were considered including the geographical character of Seattle, the present and expected future population centers, the proposed development of freeways and expressways, the desirable size of a college, the provision of equal educational opportunities for all ethnic and racial groups and the available sites. These factors were related to the long-range planning of the School District and other public planning agencies.

From these considerations, it became increasingly clear that Seattle would need a minimum of three campuses by 1975. One should be located in north, one in central, and one in south Seattle. With such an arrangement, it seems possible to have 75-90 per cent of the students within a radius of 20-25 minutes commuting time (one way).

The location of other community colleges in the Seattle area should in no way affect the development of Seattle's community college program. In 1965, 3943 Seattle high school graduates were enrolled in other community colleges in the state.

The establishment of three campuses with comprehensive programs in each, with no one campus in the center of a minority racial or ethnic group would be a most effective method of mixing these groups. This is especially evident when it is realized that the Metro campus, with the same capacity as the other two, would serve a general area with a much smaller potential in its population area. In addition, this campus would provide some programs not found on other campuses. Similarly, other campuses would have curriculums not located at the Metro campus. Thus, the location of the programs would cause moving into the central area in some cases and moving out in the others.

A number of locations were suggested by the Seattle School officials as possible sites for the community colleges. Using evaluative criteria proved sound in other situations, with modifications needed for Seattle, each site was examined in detail and a report was made. Several sites were deemed unsuitable. Some of these were satisfactory in terms of location or availability but were rated poor or unsatisfactory in physical characteristics, size, cost or other factors.

One recommended site was selected in the Northgate area, one in the Delridge community area. Four sites in central Seattle area were reviewed in detail and first priority was given to the Broadway site with the Seattle Civic Center area as a possible alternative. The Fort Lawton area was suggested as a fourth campus when needed and available.

A survey was made of the scope and the organization of each of the five types of programs needed in a comprehensive community college in Seattle. The programs included transfer, general, developmental, adult general, and occupational education.

Other community colleges with strong transfer programs were used in preparing a model for Seattle Community College. After adjustments were made in terms of local conditions, an estimate was developed of the number of students that could be expected in each of the major subject areas using a base of 1000 full-time equivalent students. This was later used for estimating the number of faculty, classroom and laboratory spaces needed.

Emphasis was placed on the importance of a three-step developmental program for the students who were potential failures in any college level program. The steps were: helping the students identify weaknesses, assisting them in relating strength and weaknesses in making program and career choices, and finally, requiring them to take a development (remedial) program without credit before being eligible to enter certain college credit courses.

Seattle has for many years had a strong general adult and vocational education program. This is the logical foundation on which a strong comprehensive community college can be developed. The danger of the transfer program monopolizing funds, faculty, and facilities was emphasized. Care must be exercised continually to insure that a proper balance is maintained.

The occupational curriculums needed in Seattle are many and varied. A careful analysis was made of the total needs and the feasibility of meeting these needs. The three levels—certificate, diploma, and degree (associate in applied science) were included in this analysis. Not only the number of students in each curriculum but also the location of curriculums by campus were explicitly spelled out.

The need for administrative and other services were analyzed. It was recognized that these services were to facilitate instruction and learning.

An administrative chart was developed to suggest ways in which the major administrative services could be performed and responsibilities clearly designated. It was recognized that the administrator was more important than the organization and that each person in administration should recognize that his worth was measured in terms of the service offered and the contribution made to the entire college.

Specific attention was given to student services, business, and food services as well as to the welfare of the teaching and administrative staff.

Emphasis was placed on the importance of each administrative official being aware of his responsibilities and expressing his duties and relationships in writing.

Relationships between the Seattle Public School Office, the president of the college and his staff and the staff and officials on the different campuses were spelled out in the report. Encouragement was given for periodic review of these relationships.

The facilities presently used for adult and vocational education purposes were examined in terms of their proposed future use for the community college. With the exception of the Boat Shop, all six sites used in 1965-66 will be needed in 1966-67. In addition, the Summit Elementary School will be utilized.

Consideration was given in this report to the amount and kind of space needed on each of the three campuses, the estimated cost of construction, and a proposed construction schedule.

To house the programs and services recommended at the three campuses will require the following space.

North Campus	531,702 square feet
Metro Campus	589,121 square feet
South Campus	617,904 square feet

The construction and equipment costs, the approximate time of bid, and time of occupancy are shown below:

	Bid	Occupied	
North Campus	1968	1969	15,484,818
South Campus	1969	1970	18,754,405
Metro Campus	1974	1975	23,636,713

Finally, it should be noted that if the Broadway site is used as recommended, the construction cost would be reduced by the equivalent cost of usable space.

Recommendations

The major recommendations of the report are reviewed in the following paragraphs.

General Recommendations

It is recommended that the Seattle Community College be a comprehensive college with an "open door" policy, serving high school graduates and any adult who is interested and can profit from attending.

It is recommended that a multi-campus plan be adopted and that three campuses for 5,000 students each be established by 1975 to serve the projected enrollment potential. Additional campuses may be needed after 1975 to serve the community college growth potential in Seattle.

It is recommended that the student is the prime consideration and that every effort be made to provide a climate for learning in which he can grow. Attention, therefore, is needed not only to the breadth of courses available, to the availability of adequate classrooms, laboratories, libraries, and study areas; but also to the removal to the greatest degree possible of economic, geographic or cultural barriers to his attendance and progress.

Recommendations—Sites

In North Seattle, the site located west of the Northgate shopping area is recommended as feasible for acquisition and development as a community college campus. Approximately sixty-five acres are available.

In South Seattle, a site in the Delridge community is recommended as feasible for acquisition and development as a community college campus. Approximately 60-65 acres are available.

In the Central Seattle area, the Broadway site is recommended as the most desirable for use as a community college campus. It is further recommended that the site be expanded by securing land in the same block as the Edison North Building and additional property west and north of the existing site.

It was further recommended that the Seattle Civic Center area be considered as a possible alternative to the Broadway site, and that Fort Lawton be considered at a later date as a possible fourth campus if needed and if the property was declared surplus at the time of need.

Finally, it was recommended that use of the Gompers site be discontinued as soon as other facilities are available. A similar recommendation was made with reference to the Central Guidance Center. Each will be used for the programs now in operation on a temporary basis.

The Aircraft Branch site and facilities should be abandoned and the property disposed of when no longer needed for temporary housing of the aircraft classes.

It is recommended that the Board of Directors proceed immediately to acquire the sites needed for the North and South campuses.

Recommendations—Programs

It is recommended that each campus offer a comprehensive program including transfer, general, developmental, adult general and occupational education.

It is recommended that 40 per cent of the total full-time enrollments be in occupational curriculums.

It is recommended that it is feasible to serve 18 out of the 20 occupational clusters identified in this study.

It is recommended that of the 118 curriculum units in the occupational program, 41 be in degree, 53 in diploma and 24 at the certificate level. Of the 118 units, 29 should be located on the North Campus, 48 on the Metro and 41 on the South campuses.

It is recommended that the excellent general adult education program be expanded in both general education and community service and that increased testing and guidance services be provided for part-time students in day or evening programs.

It is recommended that the standards of transfer programs be kept at least as high as in four-year colleges and universities.

It is recommended that specific programs be developed to assist students with deficiencies in reading, comprehension or certain subject matters.

Recommendations—Administrative and Other Services

It is recommended that the president of the community college system be a deputy superintendent of Seattle Schools responsible to the Board through the superintendent.

It is recommended that the president of the community college be given the greatest possible autonomy in the operation of the college system.

It is recommended that the president have a trained staff of specialists to assist him.

It is recommended that the vice-president of each campus be directly responsible to the president and through him to the superintendent of schools and the Seattle School Board.

It is recommended that the day-by-day administration of each campus be the responsibility of the vice-president of that campus.

It is recommended that student personnel services include *all* services to the student related to testing, admissions, records, guidance, health, food, clubs, and other activities.

It is recommended that responsibility for budget preparation be clearly outlined so that faculty department heads, librarians, business officers, campus vice presidents, and the college systems business officer each understand their respective responsibilities in this matter.

It is recommended that food services be administered in relation to instruction, business and student services.

It is recommended that the instructional materials center be appropriately considered as the academic center of the college. The director therefore, should have equivalent status to the campus dean of the transfer program, or of student services.

Recommendations—Buildings

It is recommended that the Edison North Building as an adaptable structure can be effectively used for many years for occupational and related curriculums, as part of a community college. Its structural design will be excellent for meeting the changing educational needs. The exterior and parts of the interior should be rehabilitated to more nearly resemble a college.

It is recommended that the Edison South building, although having almost 2,000 student stations can not provide effective space for a modern community college. Consequently, consideration should be given to razing this building and replacing it with a modern high-rise structure.

If the above recommendation is not followed, it is recommended that further study be made on the structural stability of Edison South, the changes needed to upgrade the building especially with regard to fire safety and sanitation before any extensive plans are made for rehabilitation and continued use.

Recommendations—Financing
Capital Needs

Finally, it is recommended that a sufficient amount of money be included in the bond proposal for submission to the people of Seattle to construct the facilities at the North and South campuses. The estimate of the construction cost of the facilities for the two campuses is approximately $34,000,000. These estimates do not include costs of sites, site development and administrative expenditures such as test borings, topographic surveys, special tests during construction, legal fees, and other such items. Additionally, an amount should be included for contingencies and unforeseen conditions.

APPENDIX A

OCCUPATIONS OF THE EXPERIENCED CIVILIAN LABOR FORCE OF THE EMPLOYED FOR THE SEATTLE STANDARD METROPOLITAN STATISTICAL AREA — 1960 CENSUS

Classification	Number
PROFESSIONAL, TECH. & KINDRED	64,610
Accountants & Auditors	4704
Actors	36
Airplane Pilots & Navigators	662
Architects	595
Artists and Art Teachers	1098
Athletes	18
Authors	292
Chiropractors	49
Clergymen	1042
College Pres., Prof., and Inst. NEC	1502
Dancers and Dancing Teachers	179
Dentists	765
Designers	362
Dietitians and Nutritionists	232
Draftsmen	1980
Editors and Reporters	624
Engineers, Technical	14,503
Aeronautical	4369
Chemical	220
Civil	1935
Electrical	2700
Industrial	1540
Mechanical	2590
Metallurgical and Metal'ists	139
Mining	24
Sales	392
Not Elsewhere Classified	594
Entertainers (NEC)	89
Farm and Home Mgmt. Advisors	29
Forestors and Conservationists	140
Funeral Directors and Embalmers	147
Lawyers and Judges	1667
Librarians	758
Musicians and Music Teachers	1512
Natural Scientists	923
Agricultural Scientists	8
Biological Scientists	159
Chemists	356
Geologists and Geophysicists	82
Mathematicians	120
Physicists	141
Miscellaneous Nat. Sci.	57
Nurses, Professional	4582
Nurses, Student Prof.	181
Optometrists	121
Osteopaths	26

Classifications	Number
Personnel & Labor Relations Work	893
Pharmacists	803
Photographers	412
Physicians & Surgeons	1810
Public Relations men & publicity writers	364
Radio Operators	416
Recreation & Group Wkrs.	248
Religious Workers	377
Social & Welfare Wkrs., exc. group.	689
Social Scientists	358
Economists	85
Psychologists	114
Statisticians & Actuaries	155
Miscellaneous Social Sci.	4
Sports Instructors & Officials	499
Surveyors	397
Teachers — Elementary	5745
Secondary	3294
N.E.C.	965
Technicians: Med. & Dtl.	1253
Electrical & Electronic	1668
Other Engineer & Phys. Scient.	1682
N.E.C.	405
Therapists & Healers NEC	314
Veterinarians	145
Prof., Tech., & Kindred Workers (NEC)	3055
MGRS. OFF., & PROPRIETORS	40,968
Buyers & Dept. Heads, Stores	2,228
Buyers & Shippers, Farm Products	29
Conductors, Railroad	139
Credit Men	410
Floormen & Floor Mgrs., Store	40
Inspectors, Public Adm.	497
Fed. Public Adm. & Postal Service	308
State Public Adm.	55
Local Public Adm.	134
Managers & Supv., bldgs.	1056
Officers, Pilots, Pursers & Eng., ships	1126
Officials & Adm. (NEC) Public Adm.	1135

Classifications	Number
Mgrs. Off. & Proprietors (Continued)	
Fed. Pub. Adm. & Postal Services	500
State Public Adm.	190
Local Public Adm.	445
Off., Lodge, Society, Union	433
Postmasters	77
Purchasing Agents & Buyers (NEC)	1520
Mgrs., Off'ls & Proprs. (NEC) Salaried	18971
Construction	1149
Manufacturing	4278
Transportation	1222
Communication, Util. & Sanitary	829
Wholesale Trade	1896
Retail Trade	4138
Food & Dairy Prod. Stores	722
Eating & Drinking Places	475
General Merchandise & Limited Variety Stores	630
Apparel & Accessory Stores	226
Furn. & Equip. Store	233
Mtr. Vehicles & Accessories Retail.	556
Gasoline Serv. Sta.	308
Hardware, Farm. Equip. & Bldg. Material retail	313
Other retail trade	675
Insurance & Real Estate	1334
Banking & Other Fin.	1546
Business Services	464
Auto Repair Serv. & Garages	137
Misc. Repair Serv.	41
Personal Services	520
All other industries including not reported	1417
Mgrs., Off., Prop., (NEC) Self-Employed	13,307
Construction	2244
Manufacturing	1373
Transportation	285
Communications, Util. & Sanitary	36
Wholesale trade	1157
Retail Trade	5426
Food & Dairy Products	1072
Eating & Drinking Places	1187
Gen. Merchandise & limited variety store	120
Apparel and accessories	267
Furniture	315
Mtr. vehicle & accessories	313
Gas Service Sta.	933
Hardware, Farm Equip. & Bldg. Materials	401
Other Retail Trade	818
Banking and Other Finance	136
Insurance & Real Estate	397
Business Services	378
Auto Repair Serv. & Garage	308
Miscellaneous Repair	93
Personal Services	793
All other ind. including not reported	681
CLERICAL AND KINDRED WORKERS	74,057
Agents NEC	1346
Attendants & assistants, library	240
Attendants, Phys. & Dent. Office	774
Baggagemen, transportation	28
Bank tellers	1038
Bookkeeper	7131
Cashiers	3042
Collectors, bill and acct.	241
Dispatchers & starters, vehicle	641
Expressmessengers & railway (mail clerks)	16
File Clerks	1250
Insurance adjustors, examinors and invest.	479
Mail carriers	1235
Messenger & office boys	451
Office machine operators	2788
Payroll & timekeeping clerks	809
Postal clerks	1452
Receptionists	1278
Secretaries	11,082
Shipping & Receiving clerks	1515
Stenographers	3129
Stock Clerks & storekeepers	2900
Telegraph messengers	12
Telegraph operators	167
Telephone operators	2400
Ticket, Station and express agents	840
Typists	3759
Clerical & kindred (NEC)	24,014
SALES WORKERS	35,274
Advertising agents & salesmen	267
Auctioneers	13
Demonstrators	381
Hucksters & peddlers	537
Insurance agents brokers & underwriters	2837
Newsboys	2221
Real estate agents & brokers	2770
Stock & bond salesmen	271
Salesmen & sales clerks NEC	25,977
Manufacturing	3350

Classifications	Number
Wholesale trade	5207
Retail trade	16,149
Other industries incl. not reported	1271
CRAFTSMEN, FOREMEN, & KINDRED	64,128
Bakers	907
Blacksmith	126
Boilermakers	400
Bookbinders	155
Brickmasons, stonemasons and tile setters	827
Cabinetmakers	618
Carpenters	7343
Cement & concrete finisher	194
Compositors & typesetters	1083
Cranemen, Derrickmen & Hoistmen	761
Decorators and window dressers	291
Electricians	2745
Electrotypers & sterotypers	33
Engravers, except photo-engravers	60
Excavating, Grading & road mach. op.	1349
Foremen (NEC)	7380
Forgemen & hammermen	68
Furriers	4
Glazier	195
Heat treaters, annealers, and temperers	50
Inspectors, Scalers & graders, log and lumber	415
Inspectors, incl. not rep. (NEC)	516
Jewelers, watchmakers, goldsmiths & silversmiths	273
Job setters, metal	37
Linemen and servicemen, telegraph, telephone, power	2181
Locomotive engineers	282
Locomotive firemen	208
Loom fixers	----
Machinists	4601
Mechanics & repairmen	17,532
air conditioning	423
airplane	5203
automobile	4242
office machine	256
radio and T.V.	585
railroad & car shop	205
N.E.C.	6618
Millers, grainers, flour, feed, etc.	34
Millwrights	491
Molders metal	227
Motion picture projectionists	77
Opticians & lens grinders & polishers	167
Painters, construction & maintenance	2228
Paperhangers	24
Patterns & model makers, exc. paper	566
Photoengravers & lithographers	174
Piano & organ tuners & repairmen	62
Plasterers	167
Plumbers & pipe fitters	1771
Pressmen & plate printers	358
Rollers & roll hands, metal	126
Roofers & slaters	344
Shoemakers & repairers, exc. factory	235
Stationary engineers	1536
Stone cutters & stone carver	8
Structural metal workers	463
Tailors	244
Tinsmiths, coppersmiths, and sheet metal workers	1437
Toolmakers & die makers, & setters	1190
Upholsterers	498
Craftsmen & Kindred workers (NEC)	1067
OPERATIVES & KINDRED	53,575
Apprentices	779
auto mechanic	38
bricklayer and masons	28
carpenters	102
electrician	70
machinists & toolmaker	114
mechanic except auto	31
plumbers & pipe fitters	63
bldg. trades NEC	11
metal working trades NEC	73
printing trades	80
other specified trades	89
trade not specified	80
Asbestos & insulation wkrs.	121
Assemblers	1600
Attendants, Auto Serv. & Parking	2086
Blasters & Powdermen	38
Boatmen, canalmen & lock keeper	56
Brakemen, railroad	276
Bus drivers	1231
Chainmen, rodmen, axmen, surveying	43

Classifications	Number
OPERATIVES & KINDRED (CONTINUED)	
Checkers, examiners, and inspectors	2218
Conductors, bus & street railway	—
Deliverymen and routemen	2496
Dressmakers & seamstresses exc. factory	624
Dyers	15
Filers, Grinders, & polishers, metal	628
Fruit, nut, & veg. graders and packers, except fact.	41
Furnacemen, smeltermen & pourers	113
Graders and sorters, mfg.	117
Heaters, metal	40
Knitters, loopers & toppers, textile	16
Laundry & dry cleaning oper.	2056
Meat cutters, exc. slaughter & packing house	1045
Milliners	4
Mine operators & laborers (NEC)	106
Motormen: mine, factory, logging camp, etc.	20
street, subway, elevated railway	22
Oilers and greasers, exc. auto	450
Packers & wrappers, NEC	2705
Painters, exc. construction and maintenance	693
Photographic process workers	316
Power station operators	189
Sailors and deck hands	745
Sawyers	990
Sewers and stitchers, mfg.	728
Spinners, textile	5
Stationary firemen	416
Switchmen, railroad	412
Taxicab drivers & chauffeurs	748
Truck and tractor drivers	8103
Weavers, textile	11
Welders and flame cutters	1837
Operatives and kind. (NEC)	19,436
Manufacturing	15,390
Non-manufact. incl. not rep.	4,046
PRIVATE HOUSEHOLD WORKERS	8,591
Baby sitters	4679
Housekeepers	855
Laundresses	103
NEC	2954
SERVICE EXC. PRIV. HOUSEHOLD	35,223
Attendants, Hospital & other inst.	1675
Attendants, profess. & personal serv. (NEC)	501
Attendants, recreation & amusement	391
Barbers	1250
Bartenders	1369
Boarding & Lodging housekeepers	220
Bootblacks	59
Chambermaids and maids excp. priv. H.H.	751
Charwomen and cleaners	810
Cooks, exc. priv. H. H.	4206
Counter and Fountain workers	548
Elevator operator	341
Hairdressers & cosmetologists	1696
Housekeepers & stewards exc. priv. H.H.	1348
Janitors & sextons	4496
Kitchen workers (NEC) exc. priv. H.H.	2430
Midwives	—
Porters	155
Practical nurses	1721
Protective service workers	3736
Firemen, fire protection	1055
Guards, watchmen and doorkeepers	1089
Marshals, & constables	17
Policemen and detectives	1378
Sheriffs and bailiffs	102
Watchmen (crossing) & bridge tenders	95
Ushers, recreation & amusement	116
Waiters	6166
Service workers NEC	1238
FARMERS & FARM MGRS.	2745
Farmers (owners & tenants)	2698
Farm mgrs.	47
FARM LABORERS AND FOREMEN	2697
Farm Foremen	20
Farm Laborers, wage worker	2249
Farm Laborers, unpaid family worker	420
Farm, Service Laborer, self-employed	8
LABORERS EXCEPT FARM & MISC.	20,433
Carpenters' Helpers, exc. Logging and mining	134
Fishermen and Oystermen	876

Classifications	Number
LABORERS EXCEPT FARM & MISC. (CONTINUED)	
Garage Laborers	551
Gardener, exc. farm & groundskeeper	2120
Longshoremen and stevedores	1427
Lumbermen, raftsmen & wood chopper	1217
Teamsters	122
Truck drivers; Helpers	67
Warehousemen (NEC)	2495
Laborers (NEC)	11,424
Manufacturing	3464
Durable goods	2722
Nondurable goods	742
Non-manufacturing incl. not rep.	7960
OCCUPATION NOT REPORTED	17,632
TOTAL EMPLOYED	419,933

APPENDIX B

TABLE A
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE NORTH CAMPUS SEATTLE COMMUNITY COLLEGE

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
A. Administration				
1. Campus Vice President				
a. V.P. Office	1	250	250	
b. Secretary	1	150	150	
c. Waiting & Reception	1	175	175	
d. Conference	1	300	300	
e. Other Spaces	3	150	450	
2. Other Professional Offices	5	150	750	
3. Secretaries' Offices	12	120	1,440	
4. Student Personnel	13	120	1,560	
5. Guidance Facilities[1]	4	------	1,200	
6. Conference Rooms	1	400	400	
7. Work Rooms	3	400	1,200	
8. Records Storage	2	300	600	
9. Toilets	2	225	450	
10. Storage	4	200	800	
11. Building Services	4	75	300	
Total Administration				10,025
B. Transfer and General Education				
1. Classrooms				
a. 0 -19 Capacity	16	400	6,400	
b. 20-39 Capacity	34	720	24,480	
c. 40-59 Capacity	4	1,000	4,000	
d. 60-99 Capacity	2	1,600	3,200	
B. Transfer and General Education (Cont.)				
2. Laboratories				
a. Art	2	1,600	3,200	
b. Speech-Drama[2]	1	1,000	1,000	
c. Language[2]	1	1,500	1,500	
d. Science[2]	12	1,600	19,200	

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[1] Includes testing, waiting, work and storage rooms. Excludes counselor and other offices.

[2] Includes related work and storage areas.

TABLE A (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE NORTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
3. Specialized Instructional Areas				
a. Physical Education				
(1) Gymnasium				
(a) Men's Double	1	11,000	11,000	
(b) Women's Double	1	7,600	7,600	
(2) Gymnastics	2	1,200	2,400	
(3) Natatorium	1	8,000	8,000	
(4) Shower and Locker	2	2,000	4,000	
(5) Auxiliary Rms.[3]	4	100	400	
(6) Building Services[4]	5	—	700	
(7) Toilet Rooms	4	250	1,000	
b. Music				
(1) Choral	1	1,600	1,600	
(2) Instrumental	1	2,500	2,500	
(3) Auxiliary Rms.	16	—	2,875	
(4) Studios	3	200	600	
c. Teaching Auditorium				
(1) Assembly Area	3	—	3,500	
(2) Storage & Related Rooms	5	—	1,800	
(3) Lobby Area	1	—	1,200	
(4) Auxiliary Rms.	3	—	500	
(5) Toilets	2	225	450	
(6) Building Services	3	—	1,000	
4. Faculty Offices				
a. Single Offices	15	150	2,250	
b. Double Offices	109	90	9,810	
c. Secretarial	55	80	4,400	
Total General Education and Transfer				130,565

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[3] Auxiliary rooms include related service rooms, storage, offices, work and supporting spaces.

[4] Building service rooms include general storage and custodial.

TABLE A (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE NORTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
C. Occupational Programs (Cluster Facilities)				
1. Health Related				
a. Classrooms	8	600	4,800	
b. Laboratories	6	----	8,500	
c. Auxiliary Space[5]	9	----	2,100	
2. Hospitality				
a. Classrooms	1	600	600	
b. Laboratories	1	800	800	
c. Auxiliary Space[5]	2	150	300	
3. Accounting, Bookkeeping, and Finance				
a. Classrooms	6	600	3,600	
b. Laboratories	3	----	3,400	
c. Auxiliary Space[5]	4	----	1,000	
4. Insurance & Real Estate				
a. Classrooms	1	600	600	
b. Laboratories	2	800	1,600	
c. Auxiliary Space[5]	2	150	300	
5. Office Occupations				
a. Classrooms	7	600	4,200	
b. Laboratories	5	----	5,000	
c. Auxiliary Space[5]	7	----	1,350	
6. Sales and Merchandising				
a. Classrooms	1	600	600	
b. Laboratories	1	1,000	1,000	
c. Auxiliary Space[5]	2	----	450	
7. Personal Services				
a. Classrooms	1	600	600	
b. Laboratories	1	1,600	1,600	
c. Auxiliary Space[5]	3	----	400	
8. Protective Services				
a. Classrooms	1	600	600	
b. Laboratories	1	800	800	
c. Auxiliary Space[5]	2	----	250	
9. Automotive				
a. Classrooms	5	600	3,000	
b. Laboratories	5	----	13,600	

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[5] Auxiliary space includes cluster offices, workrooms, storage, and related spaces.

TABLE A (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE NORTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
c. Auxiliary Space[5]	7	----	2,650	
Total Occupational Programs				63,700
D. Adult General Education				
1. Classrooms				
a. 0 -19 Capacity	2	400	800	
b. 20-39 Capacity	4	720	2,880	
c. 40-59 Capacity	1	1,000	1,000	
d. 60-99 Capacity	1	1,600	1,600	
Total Classrooms			6,280	
2. Laboratories				
a. Reading Lab	2	1,200	2,400	
b. Language Lab	1	1,000	1,000	
c. General Science	1	1,000	1,000	
Total Laboratories			4,400	
3. Faculty Offices				
a. Single	1	150	150	
b. Double	6	200	1,200	
c. Secretarial	3	120	360	
d. Storage and work	4	150	600	
Total			2,310	
Total General Education				12,990
E. General Instructional Facilities				
1. Learning Resources Center				
a. Reading Rooms	4	4,200	16,800	
b. Reference Room	1	1,500	1,500	
c. Reserve Reading Rm	1	1,000	1,000	
d. Stack Areas[6]	4	2,100	8,400	
e. Listening Room w/Control Room	1	1,000	1,000	
f. Radio & TV Production	2	----	2,500	
g. Periodicals	2	----	1,200	

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[5] Auxiliary space includes cluster offices, workrooms, storage, and related spaces.

[6] Stack space was computed for 100,000 books.

TABLE A (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE NORTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
h. Auxiliary Rooms	12	----	4,025	
i. Offices	6	120	720	
j. Conferences	4	300	1,200	
k. Storage	4	150	600	
l. Building Services	4	100	400	
m. Toilets	4	225	900	
			40,245	
2. Fine Arts Auditorium				
a. Assembly	1	12,000	12,000	
b. Stage & Related Areas	4	----	5,250	
c. Lobby	1	1,500	1,500	
d. Public Toilets	2	300	600	
e. Other Rooms	4	----	1,000	
f. Building Services	3	----	800	
			21,150	
Total General Instructional Facilities				61,395
F. General Service Facilities				
1. Student Center				
a. Food Services				
(1) Student Dining Room	3	6,000	18,000	
(2) Faculty Dining	1	1,200	1,200	
(3) Snack Bar	2	1,500	3,000	
(4) Kitchen Areas	9	----	3,600	
(5) Serving Ctrs.	6	----	1,200	
(6) Storage	2	500	1,000	
(7) Receiving	1	300	300	
(8) Garbage Area	1	250	250	
(9) Offices	2	120	240	
(10) Staff Lockers and Toilets	2	300	600	
Total Food Services				29,390
b. Book Store				
(1) Sales Room	1	2,500	2,500	
(2) Storage	2	600	1,200	

TABLE A (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE NORTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
(3) Shipping & Receiving	1	400	400	
(4) Offices	2	120	240	
Total Book Store			4,340	
c. Student Health Service				
(1) Women's Clinic	1	300	300	
(2) Men's Clinic	1	200	200	
(3) Reception	1	150	150	
(4) Examination	2	150	300	
(5) Storage	2	100	200	
(6) Nurse's Office	2	120	240	
Total Health Center			1,390	
d. Student Activity and Recreation Area				
(1) Student Lounges	2	800	1,600	
(2) Student Activities Rooms	10	....	3,200	
(3) Student Recreation Rooms	2	1,000	2,000	
Total			6,800	
2. Building Operations				
a. Central Storage	2	750	1,500	
b. Operations Office	2	....	450	
c. Toilets	2	100	200	
d. Locker Rooms	2	150	300	
e. Shop Area	1	300	300	
Total			2,750	
3. Central Utilities				
a. Air Conditioning and Heating	1	1,200	1,200	
b. Electrical Service Vault	1	200	200	
c. Telephone Room	1	150	150	
d. Storage	1	200	200	
e. Toilet Room	1	125	125	
Total			1,875	

TABLE A (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE NORTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
4. Student Toilet Rooms	16	225	3,600	
Total General Service Facilities				50,145
Net Total — North Campus				328,820

TABLE B
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE CENTRAL CAMPUS SEATTLE COMMUNITY COLLEGE

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
A. Administration				
1. Campus Vice President				
a. V.P. Office	1	250	250	
b. Secretary	1	150	150	
c. Waiting & Reception	1	175	175	
d. Conference	1	300	300	
e. Other Space	3	150	450	
2. Other Professional Offices	5	150	750	
3. Secretaries' Offices	12	120	1,440	
4. Student Personnel	13	120	1,560	
5. Guidance Facilities[1]	4	----	1,200	
6. Conference Rooms	1	400	400	
7. Work Rooms	3	400	1,200	
8. Records Storage	2	300	600	
9. Toilets	2	225	450	
10. Storage	4	200	800	
11. Building Services	4	75	300	
Total Administration				10,025
B. Transfer and General Education				

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[1] Includes testing, waiting, work and storage rooms. Excludes counselor and other offices.

TABLE B (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE CENTRAL CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
1. Classrooms				
a. 0 -19 Capacity	13	400	5,200	
b. 20-39 Capacity	28	720	20,160	
c. 40-59 Capacity	4	1,000	4,000	
d. 60-99 Capacity	1	1,600	1,600	
B. Transfer and General Education (Continued)				
2. Laboratories				
a. Art	2	1,600	3,200	
b. Speech-Drama[2]	1	1,000	1,000	
c. Language[2]	1	1,500	1,500	
d. Science[2]	11	1,600	17,600	
3. Specialized Instructional Areas				
a. Physical Education				
(1) Gymnasium				
(a) Men's Double	1	11,000	11,000	
(b) Women's Double	1	7,600	7,600	
(2) Gymnastics	2	1,200	1,200	
(3) Natatorium	1	8,000	8,000	
(4) Shower and Locker	2	2,000	4,000	
(5) Auxiliary Rms[3]	4	100	400	
(6) Building Services[4]	5	....	700	
(7) Toilet Rooms	4	250	1,000	
b. Music				
(1) Choral	1	1,600	1,600	
(2) Instrumental	1	2,500	2,500	
(3) Auxiliary Rms	16	....	2,875	
(4) Studios	3	200	600	
c. Teaching Auditorium				
(1) Assembly Area	3	....	3,500	

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[2] Includes related work and storage areas.

[3] Auxiliary rooms include related service rooms, storage, offices, work and supporting spaces.

[4] Building service rooms include general storage and custodial.

TABLE B (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE CENTRAL CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
(2) Storage & Related Areas	5	----	1,800	
(3) Lobby Area	1	----	1,200	
(4) Auxiliary Rms	3	----	500	
(5) Toilets	2	225	450	
(6) Building Services	3	----	1,000	
4. Faculty Offices				
a. Single Offices	15	150	2,250	
b. Double Offices	87	90	7,830	
c. Secretarial	47	80	3,760	
Total Transfer and General Education				119,225
C. Occupational Programs (Cluster Facilities)				
1. Health Related				
a. Classrooms	9	600	5,400	
b. Laboratories	6	----	8,500	
c. Auxiliary Space[5]	10	----	2,300	
2. Hospitality				
a. Classrooms	4	600	2,400	
b. Laboratories	3	----	6,000	
c. Auxiliary Space[5]	8	----	1,600	
3. Accounting, Bookkeeping, and Finance				
a. Classrooms	4	600	2,400	
b. Laboratories	2	----	2,500	
c. Auxiliary Space[5]	4	----	1,000	
4. Office Occupations				
a. Classrooms	7	600	4,200	
b. Laboratories	7	----	6,800	
c. Auxiliary Space[5]	11	----	2,150	
5. Sales and Merchandising				
a. Classrooms	1	600	600	
b. Laboratories	2	1,000	1,000	
c. Auxiliary Space[5]	5	----	900	
6. Personal Services				
a. Classrooms	1	600	600	

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[5] Auxiliary space includes cluster offices, workrooms, storage and related spaces.

TABLE B (CONTINUED)
TABLABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE CENTRAL CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
b. Laboratories	1	1,600	1,600	
c. Auxiliary Space[5]	3	----	400	
7. Clothing Construction and Care				
a. Classrooms	3	600	1,800	
b. Laboratories	5	----	8,100	
c. Auxiliary Space[5]	16	----	3,200	
8. Engineering Related Occupations				
a. Classrooms	4	600	2,400	
b. Laboratories	2	2,000	4,000	
c. Auxiliary Space[5]	6	----	1,200	
9. Electrical and Electronics				
a. Classrooms	2	600	1,200	
b. Laboratories	2	----	4,500	
c. Auxiliary Space[5]	6	----	1,000	
10. Metal Machining				
a. Classrooms	3	600	1,800	
b. Laboratories	3	----	7,800	
c. Auxiliary Space[5]	6	----	1,650	
11. Building Construction				
a. Classrooms	3	600	1,800	
b. Laboratories	3	----	7,000	
c. Auxiliary Space[5]	8	----	1,850	
12. Building Operation				
a. Classrooms	3	600	1,800	
b. Laboratories	3	----	6,400	
c. Auxiliary Space[5]	9	----	1,700	
Total Occupational Programs				110,550
D. Adult General Education				
1. Classrooms				
a. 0 -19 Capacity	2	400	800	
b. 20-39 Capacity	4	720	2,880	
c. 40-59 Capacity	1	1,000	1,000	
d. 60-99 Capacity	1	1,600	1,600	
Total Classrooms			6,280	

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[5] Auxiliary space includes cluster offices, workrooms, storage, and related spaces.

TABLE B (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE CENTRAL CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
2. Laboratories				
a. Reading Lab	2	1,200	2,400	
b. Language Lab	1	1,000	1,000	
c. General Science	1	1,000	1,000	
Total Laboratories			4,400	
3. Faculty Offices				
a. Single	1	150	150	
b. Double	6	200	1,200	
c. Secretarial	3	120	360	
d. Storage and Work	4	150	600	
Total			2,310	
Total Adult General Education				12,990
E. General Instructional Facilities				
1. Learning Resources Center				
a. Reading Rooms	4	4,200	16,800	
b. Reference Room	1	1,500	1,500	
c. Reserve Reading Rm	1	1,000	1,000	
d. Stack Areas[6]	4	2,100	8,400	
e. Listening Area w/Control Room	1	1,000	1,000	
f. Radio & TV Production	2	----	2,500	
g. Periodicals	2	----	1,200	
h. Auxiliary Rooms	12	----	4,025	
i. Offices	6	----	720	
j. Conference Rooms	4	300	1,200	
k. Storage	4	150	600	
l. Building Services	4	100	400	
m. Toilets	4	225	900	
			40,245	
2. Fine Arts Auditorium				
a. Assembly	1	12,000	12,000	

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[6] Stack space was computed for 100,000 books.

TABLE B (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE CENTRAL CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
b. Stage & Related Areas	4	—	5,250	
c. Lobby	1	1,500	1,500	
d. Public Toilets	2	300	600	
e. Other Rooms	4	—	1,000	
f. Building Services	3	—	800	
			21,150	
Total General Instructional Facilities				61,395
F. General Service Facilities				
1. Student Center				
a. Food Service				
(1) Student Dining Room	3	6,000	18,000	
(2) Faculty Dining	1	1,200	1,200	
(3) Snack Bar	2	1,500	3,000	
(4) Kitchen Areas	9	—	3,600	
(5) Serving Ctrs.	6	—	1,200	
(6) Storage	2	500	1,000	
(7) Receiving	1	300	300	
(8) Garbage Area	1	250	250	
(9) Offices	2	120	240	
(10) Staff Lockers and Toilets	2	300	600	
Total Food Services			29,390	
b. Book Store				
(1) Sales Room	1	2,500	2,500	
(2) Storage	2	600	1,200	
(3) Shipping & Receiving	1	400	400	
(4) Offices	2	120	240	
Total Book Store			4,340	
c. Student Health Service				
(1) Women's Clinic	1	300	300	
(2) Men's Clinic	1	200	200	
(3) Reception	1	150	150	

TABLE B (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE CENTRAL CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
(4) Examination	2	150	300	
(5) Storage	2	100	200	
(6) Nurse's Office	2	120	240	
Total Health Center			1,390	
d. Student Activity and Recreation Area				
(1) Student Lounges	2	800	1,600	
(2) Student Activities Rooms	10	----	3,200	
(3) Student Recreation Rooms	2	1,000	2,000	
Total			6,800	
2. Building Operations				
a. Central Storage	2	750	1,500	
b. Operations Office	2	----	450	
c. Toilets	2	100	200	
d. Locker Rooms	2	150	300	
e. Shop Area	1	300	300	
Total			2,750	
3. Central Utilities				
a. Air Conditioning and Heating	1	1,200	1,200	
b. Electrical Service Vault	1	200	200	
c. Telephone Room	1	150	150	
d. Storage	1	200	200	
e. Toilet Room	1	125	125	
Total			1,875	
4. Student Toilet Rooms	16	225	3,600	
Total General Service Facilities				50,164
Net Total-Central Campus				364,330

TABLE C
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE SOUTH CAMPUS SEATTLE COMMUNITY COLLEGE

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
A. Administration				
1. Campus Vice President				
a. V.P. Office	1	250	250	
b. Secretary	1	150	150	
c. Waiting & Reception	1	175	175	
d. Conference	1	300	300	
e. Other Spaces	3	150	450	
2. Other Professional Offices	5	150	750	
3. Secretaries' Offices	12	120	1,440	
4. Student Personnel	13	120	1,560	
5. Guidance Facilities[1]	4	....	1,200	
6. Conference Rooms	1	400	400	
7. Work Rooms	3	400	1,200	
8. Records Storage	2	300	600	
9. Toilets	2	225	450	
10. Storage	4	200	800	
11. Building Services	4	75	300	
Total Administration				10,025
B. Transfer and General Education				
1. Classrooms				
a. 0 -19 Capacity	14	400	5,600	
b. 20-39 Capacity	28	720	20,160	
c. 40-59 Capacity	4	1,000	4,000	
d. 60-99 Capacity	1	1,600	1,600	
2. Laboratories				
a. Art	2	1,600	3,200	
b. Speech-Drama[2]	1	1,000	1,000	
c. Language[2]	1	1,500	1,500	
d. Science[2]	11	1,600	17,600	
3. Specialized Instructional Areas				

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[1] Includes testing, waiting, work and storage rooms. Excludes counselor and other offices.

[2] Includes related work and storage areas.

TABLE C (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE SOUTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
a. Physical Education				
(1) Gymnasium				
(a) Men's Double	1	11,000	11,000	
(b) Women's Double	1	7,600	7,600	
(2) Gymnastics	2	1,200	2,400	
(3) Natatorium	1	8,000	8,000	
(4) Shower and Locker	2	2,000	4,000	
(5) Auxiliary Rooms[3]	4	100	400	
(6) Building Services[4]	5	----	700	
(7) Toilet Rooms	4	250	1,000	
b. Music				
(1) Choral	1	1,600	1,600	
(2) Instrumental	1	2,500	2,500	
(3) Auxiliary Rooms	16	----	2,875	
(4) Studios	3	200	600	
c. Teaching Auditorium				
(1) Assembly Area	3	----	3,500	
(2) Storage & Related Rooms	5	----	1,800	
(3) Lobby Area	1	----	1,200	
(4) Toilets	2	225	450	
(5) Auxiliary Rooms	3		500	
(6) Building Services	3	----	1,000	
4. Faculty Offices				
a. Single Offices	15	150	2,250	
b. Double Offices	87	90	7,830	
c. Secretarial	47	80	3,760	
Total Transfer and General Education				119,625

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[3] Auxiliary rooms include related service rooms, storage, offices, work and supporting spaces.

[4] Building service rooms include general storage and custodial.

TABLE C (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE SOUTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
C. Occupational Programs (Cluster Facilities)				
1. Hospitality				
a. Classrooms	4	600	2,400	
b. Laboratories	4	----	8,400	
c. Auxiliary Space[5]	10	----	2,100	
2. Accounting, Bookkeeping, and Finance				
a. Classrooms	6	600	3,600	
b. Laboratories	6	----	8,500	
c. Auxiliary Space[5]	9	----	2,100	
3. Insurance & Real Estate				
a. Classrooms	1	600	600	
b. Laboratories	2	800	1,600	
c. Auxiliary Space[5]	2	150	300	
4. Office Occupations				
a. Classrooms	6	600	3,600	
b. Laboratories	5	----	5,000	
c. Auxiliary Space[5]	7	----	1,350	
5. Sales and Merchandising				
a. Classrooms	1	600	600	
b. Laboratories	2	1,000	2,000	
c. Auxiliary Space[5]	5	----	900	
6. Graphic Arts and Mass Media				
a. Classrooms	4	600	2,400	
b. Laboratories	4	----	10,000	
c. Auxiliary Space[5]	8	----	2,000	
7. Clothing Construction and Care				
a. Classrooms	1	600	600	
b. Laboratories	1	2,400	2,400	
c. Auxiliary Space[5]	3	----	600	
8. Engineering Related Occupations				
a. Classrooms	6	600	3,600	
b. Laboratories	3	----	4,400	
c. Auxiliary Space[5]	8	----	1,800	

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[5] Auxiliary space includes cluster offices, workrooms, storage and related spaces.

TABLE C (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE SOUTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
9. Electrical and Electronics				
a. Classrooms	4	600	2,400	
b. Laboratories	3	----	6,500	
c. Auxiliary Space[5]	8	----	1,600	
10. Aircraft Maintenance				
a. Classrooms	3	600	1,800	
b. Laboratories	5	----	15,400	
c. Auxiliary Space[5]	13	----	3,250	
11. Metal Machining				
a. Classrooms	----	----	----	
b. Laboratories	1	2,000	2,000	
c. Auxiliary Space[5]	3	----	850	
12. Woodworking				
a. Classrooms	2	600	1,200	
b. Laboratories	5	----	14,300	
c. Auxiliary Space[5]	12	----	2,800	
13. Building Construction				
a. Classrooms	3	600	1,800	
b. Laboratories	1	2,400	2,400	
c. Auxiliary Space[5]	5	----	800	
Total Occupational Program				127,950
D. Adult General Education				
1. Classrooms				
a. 0 -19 Capacity	2	400	800	
b. 20-39 Capacity	4	720	2,880	
c. 40-59 Capacity	1	1,000	1,000	
d. 60-99 Capacity	1	1,600	1,600	
2. Laboratories				
a. Reading Lab	2	1,200	2,400	
b. Language Lab	1	1,000	1,000	
c. General Science	1	2,000	2,000	
3. Faculty Offices				
a. Single	1	150	150	
b. Double	6	200	1,200	
c. Secretarial	3	120	360	

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[5] Auxiliary space includes cluster offices, workrooms, storage, and related spaces.

TABLE C (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE SOUTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
d. Storage and Work	4	150	600	
Total Adult General Education				12,990
E. General Instructional Facilities				
1. Learning Resources Center				
a. Reading Rooms	4	4,200	16,800	
b. Reference Room	1	1,500	1,500	
c. Reserve Reading Room	1	1,000	1,000	
d. Stack Areas[6]	4	2,100	8,400	
e. Listening Room w/Control Room	1	1,000	1,000	
f. Radio & TV Production	2	----	2,500	
g. Periodicals	2	----	1,200	
h. Auxiliary Rooms	12	----	4,025	
i. Offices	6	120	720	
j. Conference Rooms	4	300	1,200	
k. Storage	4	150	600	
l. Building Services	4	100	400	
m. Toilets	4	225	900	
			40,245	
2. Fine Arts Auditorium				
a. Assembly	1	12,000	12,000	
b. Stage & Related Areas	4	----	5,250	
c. Lobby	1	1,500	1,500	
d. Public Toilets	2	300	600	
e. Other Rooms	4	----	1,000	
f. Building Services	3	----	800	
			21,150	
Total General Instructional Facilities				61,395

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[6] Stack space was computed for 100,000 books.

TABLE C (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE SOUTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
F. General Service Facilities				
1. Student Center				
a. Food Services				
(1) Student Dining Room	3	6,000	18,000	
(2) Faculty Dining	1	1,200	1,200	
(3) Snack Bar	2	1,500	3,000	
(4) Kitchen Areas	9	—	3,600	
(5) Serving Ctrs.	6	----	1,200	
(6) Storage	2	500	1,000	
(7) Receiving	1	300	300	
(8) Garbage Area	1	250	250	
(9) Offices	2	120	240	
(10) Staff Lockers & Toilets	2	300	600	
Total Food Services			29,390	
b. Book Store				
(1) Sales Room	1	2,500	2,500	
(2) Storage	2	600	1,200	
(3) Shipping & Receiving	1	400	400	
(4) Offices	2	120	240	
Total Book Store			4,340	
c. Student Health Service				
(1) Women's Clinic	1	300	300	
(2) Men's Clinic	1	200	200	
(3) Reception	1	150	150	
(4) Examination	2	150	300	
(5) Storage	2	100	200	
(6) Nurse's Office	2	120	240	
Total Health Center			1,390	
d. Student Activity and Recreation Area				
(1) Student Lounges	2	800	1,600	
(2) Student Activities Rooms	10	—	3,200	
(3) Student Recrea-				

TABLE C (CONTINUED)
TABULATIONS OF ESTIMATED FACILITY NEEDS BY 1975 AT THE SOUTH CAMPUS

Type of Facility	No. Rms.	Amt. of Space/ Rm.	Total Net Space Needs	Total Net by Type
tion Rooms	2	1,000	2,000	
Total			6,800	
2. Building Operations				
a. Central Storage	2	750	1,500	
b. Operations Office	2	----	450	
c. Toilets	2	100	200	
d. Locker Rooms	2	150	300	
e. Shop Area	1	300	300	
Total			2,750	
3. Central Utilities				
a. Heating & Air Conditioning	1	1,200	1,200	
b. Electrical Service Vault	1	200	200	
c. Telephone Room	1	150	150	
d. Storage	1	200	200	
e. Toilet Room	1	125	125	
Total			1,875	
4. Student Toilet Rooms	16	225	3,600	
Total General Service Facilities				50,145
Net Total – South Campus				382,130